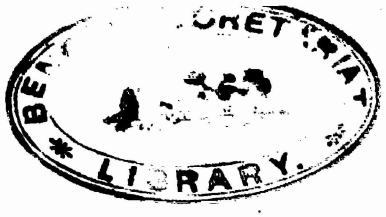

ANNUAL

ADMINISTRATION REPORTS

OF

THE FOREST DEPARTMENT

(SOUTHERN AND NORTHERN CIRCLES),

MADRAS PRESIDENCY,

FOR THE

OFFICIAL YEAR

1890-91.

MADRAS:
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1891.

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PROGRESS REPORT

OF

FOREST ADMINISTRATION IN THE SOUTHERN CIRCLE, MADRAS,

FOR THE YEAR 1890-91.

By Colonel I. CAMPBELL WALKER, Staff Corps, Conservator of Forests.

CHAPTER I.

Introductory Remarks.

Colonel I. Campbell Walker was in charge throughout the year. He visited all the districts in the Circle and submitted inspection notes to Collectors and the Board. Special subjects, notably the revision of subordinate establishments, requiring personal discussion with Collectors and District Forest-officers, received attention.

2. The District Forest offices of Chingleput and South Canara were inspected by the Examiner of Forest Accounts and those of North Arcot, South Arcot, Salem, North Coimbatore, South Coimbatore, Madura and South Malabar by the Treasury Deputy Collectors of the respective districts.

The Conservator also inspected some of the District Forest offices during his tours, and communicated results to the Examiner of Forest Accounts and the Collectors concerned.

District Forest-officers as a rule appear to have paid sufficient attention to the inspection of Range offices.

3. The time spent in camp by District Forest-officers during the year was on the whole satisfactory, the average being over half the time in charge. In certain cases, however, District Forest-officers appear to have spent more time at head-quarters in revising settlement records, &c.

CHAPTER II.

AREAS AND BOUNDARIES.

4. *Areas.*—The changes during the year in the areas of the several classes of Government Forest lands are briefly summarised in the following table:—

ABSTRACT A.—Classes and areas of forests.

Class of forests.	Area on 31st March 1890.	Added during the year 1890-91.	Excluded during the year 1890-91.	Difference.	Area on 31st March 1891.	Source or cause of increase or decrease.
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	
Reserved forests	2,913	387	27	+ 360	(a) 3,273	378 square miles transferred or added from reserved lands; 9 square miles added and 27 square miles deducted owing to rectification of areas.
Reserved lands	5,521	357	450	— 93	(b) 5,428	Added 336 square miles from "other forests" and 21 square miles in rectification of areas; deducted 378 square miles transferred to reserved forests, 68 square miles at settlement and in rectification of areas, and 4 square miles decreed in favour of the Zemindar of Tevaram, Madura District.
Other forests	1,441	186	387	— 201	1,240	Added 186 square miles new areas; deducted by transfer to reserved lands 336 square miles and by rectification of areas 51 square miles.
Total ..	9,875	930	864	+ 66	9,941	

(a) Includes Tekadi leased forests in South Coimbatore, 26 square miles, and 4 blocks of leased forests in South Malabar aggregating 11 square miles.

(b) Includes 12 blocks of leased forests in South Malabar aggregating 18 square miles proposed to be constituted reserved forest.

The addition under "other forests" is chiefly due to new areas selected in the Madura district for reservation.

5. The lines under which further areas are to be brought under the control of the department have been indicated in Government Order, No. 844, dated 29th October 1890—Board's Proceedings, No. 707, dated 16th December 1890.

The usual abstract showing district and reserved areas, &c., is appended for general information:—

ABSTRACT B.—District areas and forest reserves in square miles.

Districts.	Total area excluding Feudatory and Tributary States as per Board's Procs., dated 10th December 1890 (Settlement, L. Rds. and Agri).	Area excluding zemindaris and whole inam villages.	Cultivated area.	Remainder.			Forests under the control of Forest Department.	
				Uncultivated and forest areas.	Area for which returns are not available.	Total of columns 5 and 6.	Reserved forests under Act V of 1882.	Reserved lands.
1	2	3	4	5	6	7	8	9
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.
Chingleput	2,841	2,052	956	1,096	..	1,096	126	56
North Arcot ..	7,496	3,766	1,277	2,491	..	2,491	430	523
South Arcot ..	5,140	4,860	2,272	2,588	..	2,588	148	662
Salem	7,471	5,330	1,972	3,358	..	3,358	684	570
Trichinopoly ..	3,631	2,684	1,635	1,049	..	1,049	141	95
Tanjore	3,741	2,485	1,686	799	..	799	9	16
Coimbatore	7,865	7,173	3,716	3,270	187	3,457	685	1,848
Madura	8,800	3,190	1,590	1,202	398	1,600	379	114
Tinnevelly	5,392	3,518	2,270	1,248	..	1,248	428	162
Malabar	5,580	5,557	1,454	4,103	..	4,103	158	442
South Canara ..	3,902	3,883	632	3,251	..	3,251	85	940
Total ..	61,859	44,500	19,460	24,455	585	25,040	3,273	5,428

Districts.	Forest under the control of the Forest Department—*cont.*			Percentage of column 10 to column 3.	Percentage of column 10 to column 7.	Percentage of column 12 to column 3.	Percentage of column 12 to column 7.
	Total of Forest Reserves, columns 8 and 9.	Unclassed or other forests.	Total of columns 10 and 11.				
	10	11	12	13	14	15	16
	SQ. MLS.	SQ. MLS.	SQ. MLS.				
Chingleput	182	22	204	8·9	16·8	10·0	18·7
North Arcot	953	..	953	25·2	38·2	25·2	38·2
South Arcot	810	258	1,068	16·6	31·2	21·9	41·2
Salem	1,254	229	1,483	23·5	37·3	27·8	44·1
Trichinopoly	236	42	278	8·7	22·5	10·3	26·5
Tanjore	25	41	66	1·0	3·3	2·6	8·2
Coimbatore	2,533	2	2,535	35·5	73·3	35·3	73·3
Madura	493	294	787	15·5	30·9	24·6	49·1
Tinnevelly	590	17	607	16·7	47·3	17·2	48·6
Malabar	600	335	935	10·7	14·6	16·8	22·7
South Canara	1,025	..	1,025	26·4	31·5	26·3	31·5
Total ..	8,701	1,240	9,941	19·6	34·8	22·3	39·7

The net increase in the area of reserved forests amounted to 360 square miles and the net decrease in that of reserved lands is 93 square miles. The total area of both classes of reserves on 31st March 1891 amounted to 8,701 square miles against 8,434 square miles on 31st March 1890. The net increase in the total forest area of all classes including "other forests" (*i.e.*, other than those classed as reserved forests and lands) under the control of the department amounted, however, to only 66 square miles during the year, notwithstanding an addition of 186 square miles of new areas under "other forests," the reason for the net decrease being the exclusion of large areas in rectification of errors in previous estimates, as surveys and maps render more accurate calculations possible.

6. *Reserved Forests.*—The areas finally constituted reserved forests in each district are as follows:—

Abstract C.—Reserved forests in square miles.

Districts.	Up to 1889-90.	During 1889-90.	During 1890-91.	Total.
1	2	3	4	5
Chingleput	92	1	33	126
North Arcot	309	8	53	430
South Arcot	94	25	29	148
Salem	598	45	41	684
Trichinopoly	136	1	4	141
Tanjore	8	1	..	9
North Coimbatore	119	..	..	119
South Coimbatore	566	..	..	566
Madura	327	21	49 — 18	379
Tinnevelly	287	8	133	428
North Malabar	118	..	1	119
South Malabar	39	..	..	39
South Canara	47	3	35	85
Total ..	2,800	113	378 — 18	3,273

The total area at the end of the year amounted to 7·3 per cent. of the district area excluding zemindaris and inam villages.

In Madura 18 square miles are deducted on account of recomputation of areas reserved in previous years.

It will be seen from the above statement that somewhat better progress in the final constitution of reserved forests was made during the year, but there is still much room for improvement in this respect.

In addition to the area added for the year, 17 blocks aggregating 16 square miles were finally notified before its close, but as the date from which reservation took effect falls within the current year, they are not included in the return of reserved forests for 1890–91.

7. *Reserved lands under settlement.*—The following table shows the progress of settlement up to the end of the year in blocks and square miles:—

ABSTRACT D.—Forest Settlement.

Districts.	Under settlement up to 1889-90.		Added during 1889-90.		Added during 1890-91.		Total under settlement.	
	Block.	Area.	Block	Area.	Block.	Area.	Block.	Area.
1	2	3	4	5	6	7	8	9
Chingleput	47	131	32	25	12	5	91	161
North Arcot	85	733	7	125	2	15	94	873
South Arcot	85	305	..	108	28	246	113	659
Salem	105	966	3	16	18	134	126	1,116
Trichinopoly	74	197	..	..	.	.	74	197
Tanjore	24	19	..	..	..	..	24	19
North Coimbatore ..	10	776	..	..	3	502	13	1,278
South Coimbatore ..	10	566	..	..	..	..	10	566
Madura	94 (a — 13)	500 (b + 3 — 27)	..	..	..	..	81	476
Tinnevelly	39	589	..	..	..	..	39	589
North Malabar	13	261	..	..	..	..	13	261
South Malabar	21	299	..	..	..	..	21	299
South Canara	22	144	5	8	..	..	27	152
Total ..	620 (a — 13)	5,486 (b + 3 — 27)	c 47	282	63	902	726	6,646

District.	Finally settled up to 1889-90.		Finally settled during 1889-90.		Finally settled during 1890-91.		Total finally settled.	
	Block.	Area.	Block.	Area.	Block.	Area.	Block.	Area.
	10	11	12	13	14	15	16	17
Chingleput	17	92	3	1	39	33	59	126
North Arcot	38	369	6	8	6	53	50	430
South Arcot	22	91	4	25	18	29	44	148
Salem	66	598	4	45	8	41	78	684
Trichinopoly	31	136	2	1	6	4	39	141
Tanjore	16	8	1	1	..	..	17	9
North Coimbatore	6	119	..	..	..	..	6	119
South Coimbatore ..	9	566	1	..	..	..	10	566
Madura	73 (a — 12)	327	3	21	9	31	73	379
Tinnevelly	5	287	16	8	8	133	29	428
North Malabar	6	118	..	..	1	1	7	119
South Malabar	6	39	..	..	..	..	6	39
South Canara	13	47	1	3	2	35	16	85
Total ..	308 (a — 12)	2,800	41	113	97	360	434	3,273

a. Due to grouping of blocks.
b. Due to recomputation of areas.
c. Excluding one block twice entered in previous year's return

8. The position of the balance still under settlement is shown in the following abstract :—

ABSTRACT E.—Statement of settlement balance.

Districts.	Of those notified in 1884-85.		1885-86		1886-87.		1887-88		1888-89.		1889-90.		1890-91.		Total balance.	
	Block.	Area.	Block.	Area.	Block.	Area.	Block.	Area	Block.	Area.	Block.	Area	Block.	Area.	Block.	Area.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Chingleput	..	..	..	..	3	8	2	6	2	2	13	14	12	5	32	35
North Arcot	..	..	..	..	..	..	33	253	2	50	7	125	2	15	44	443
South Arcot	..	..	8	159	9	15	9	11	15	80	..	..	28	246	69	511
Salem	7	69	1	16	1	8	8	48	10	141	3	16	18	134	48	432
Trichinopoly	..	..	1	3	5	35	..	..	29	18	..	..	..	..	35	56
Tanjore	..	..	..	..	1	7	2	3	4	..	..	..	..	..	7	10
North Coimbatore ..	..	.	..	..	..	..	•2	470	2	187	..	..	3	502	7	1,159
South Coimbatore ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madura	.	..	..	..	2	35	3	50	3	12	..	..	..	..	8	97
Tinnevelly	.	..	3	127	..	..	7	34	..	..	..	..	..	..	10	161
North Malabar ..	3	102	3	40	..	..	..	..	..	..	..	..	..	..	6	142
South Malabar ..	..	..	..	..	..	..	10	19	5	241	..	..	..	..	15	260
South Canara	..	..	2	35	3	21	..	..	1	2	5	9	..	..	11	67
Total ..	10	171	18	380	24	129	76	894	73	733	28	164	63	902	292	3,373

CLASSIFICATION OF SETTLEMENT BALANCE.

Districts.	Settled and reported on. Notified under section during 1890-91, but reservation coming to force in 1891-92.		With Board or Government awaiting publication of notification under section 16.		Returned by the Board for revision and remaining either with Collectors, District Forest-officers or Forest Settlement-officers.		Total settled and reported on.		Settled but not reported on.		Settlement proceeding.	
	Block.	Area.	Block.	Area	Block.	Area.	Block.	Area.	Block.	Area.	Block.	Area.
	18	19	18 *a*	19 *a*	18 *b*	19 *b*	18 *c*	19 *c*	20	21	22	23
Chingleput	3	6	11	15	..	..	14	21	1	4	17	10
North Arcot	2	5	23	126	10	172	35	303	9	140	..	..
South Arcot	1	..	14	28	11	125	26	153	22	161	21	197
Salem	..	..	11	114	9	71	20	185	5	77	23	170
Trichinopoly	11	5	15	22	..	..	26	27	3	2	6	27
Tanjore	..	..	..	..	2	..	2	..	5	10	..	..
North Coimbatore ..	..	..	3	377	..	.	3	377	1	280	3	502
South Coimbatore ..	..	..	..	..	..	..	..	..	..	..	..	..
Madura	..	..	7	91	..	..	7	91	1	6	..	..
Tinnevelly	..	..	9	154	1	7	10	161	..	..	..	..
North Malabar ..	..	..	1	3	..	..	1	3	5	139	..	..
South Malabar ..	..	..	..	..	..	..	..	..	10	19	5	241
South Canara	..	..	2	8	..	..	2	8	9	59	..	..
Total ..	17	16	96	938	33	375	146	1,329	71	897	75	1,147

The work remaining to be done in regard to the blocks returned for revision is chiefly the correction of details in the claim registers, sketch-maps and boundary descriptions.

The submission of final reports in regard to 71 blocks embracing an area of 897 square miles shown as balance "settled but not reported on" is delayed pending either results of appeals to higher courts against Forest Settlement-officers' decisions, or preparation of correct sketch-maps to accompany the notifications. The Government has lately sanctioned an establishment of temporary surveyors and draftsmen to expedite the latter work.

In some cases, *e.g.*, in South Arcot the final reports on most of the blocks appear to have been delayed pending exchanges of lands, &c., as advised during settlement or expiration of appeal time.

In regard to forest appeals in North Malabar, the Collector reports that of the six forest cases which were pending on second appeal before the High Court, three have been decided against Government. The remaining three were remanded to the District Court, Tellicherry, for revised findings. In two of these, findings wholly favorable and in one, partially favorable to Government, have been submitted.

The settlement of the Amarampalam forest in South Malabar, referred to in the last annual report, was nearly complete at the close of the year and only awaited decision of the Forest Settlement-officer in the matter of a claim to the right to capture elephants alleged to have been granted by the jenmi prior to the purchase of the forest by Government.

The settlement of the Attapadi valley block was delayed as the Forest Settlement-officer, Mr. Castlestuart Stuart, was unable to devote the necessary time and attention to it owing to the pressure of revenue settlement work.

9. Of the two Deputy Collectors, Messrs. A. Pinto and W. C. McMurray, who were special Forest Settlement-officers at the beginning of the year, the former was, at his own request, relieved of forest settlement work in September 1890, and M.R.Ry. C. Raju Sastri Avergal appointed instead. Mr. Pinto was, however, directed to continue to be Forest Settlement-officer for the Chingleput district in addition to his ordinary duties as Deputy Collector. Mr. McMurray had charge of the forest settlement of Salem and North Arcot districts, while M.R.Ry. C. Raju Sastri Avergal had that of South Arcot, Trichinopoly, Tanjore, Coimbatore, Madura and Tinnevelly districts.

The work performed during the year by the Special Forest Settlement-officers was as follows:—

ABSTRACT F. —Outturn of work by Special Forest Settlement-officers.

	Issue of proclamation after notification under section 4		Settlement of claims		Report after settlement submitted		Final notification proclaimed		Cost
	Blocks	Area	Blocks	Area	Blocks	Area	Blocks	Area	
1	2	3	4	5	6	7	8	9	10
		SQ MLS		SQ MLS		SQ MLS		SQ MLS	RS
Mr W C McMurray .	19	135	21	222	4	68	16	107	7,862
,, C Raju Sastri	31	746	26	320	12	390	52	218	11,335
,, A Pinto	12	5	17	10	20	24	44	40	* .
Total outturn of work during 1890-91 . ..	62	886	64	561	36	482	112	365	19,197
Outturn during 1889-90	42	304	42	705	62	74	51	109	17,066
Difference for the year under report	.	+ 582	..	— 144		+ 408	.	+ 256	+2,131
Percentage of difference	..	+ 191		— 20	.	+ 551	..	+ 235	+ 12

* The cost is included in Rs 11,335 shown against his successor's (M R Ry. C Raju Sastri Avergal's) name

The results are better than in the previous year, but cannot be regarded as satisfactory.

The cost of Forest Settlement during the year amounted to Rs. 19,257 (including Rs. 60 on account of temporary establishment employed under Mr. Castlestuart Stuart, Forest Settlement-officer, Malabar), against Rs. 18,307 in the preceding year, in which there was no second special Forest Settlement-officer for a few months. The total cost since the commencement of settlement up to the end of the year amounted to Rs. 1,67,458.

The total area constituted reserved forest up to the end of the year is 3,273 square miles (as per abstract C) and by adding to it 1,329 square miles being the "settled and reported on" balance on 31st March 1891 (column 17, abstract E), we have 4,602 square miles. Each square mile settled has thus cost on an average Rs. 36, the average up to the end of the preceding year being Rs. 35. This does not include the cost of demarcation and survey.

10. *Reserved Lands not under Settlement in square miles.*—The following table shows—

(*a*) addition to the area of reserved lands,
(*b*) areas transferred for settlement as reserved forests, and
(*c*) the balance remaining as reserved lands.

ABSTRACT G.—Reserved Lands not under Settlement.

District	Up to 1889-90.	Added during 1889-90	Added during 1890-91	Total	Transferred for Settlement. Up to 1889-90	During 1889-90.	During 1890-91.	Total.	Balance remaining as reserved lands not under settlement
1	2	3	4	5	6	7	8	9	10
Chingleput	153	24	5	182	141	25	5	161	21
North Arcot	911	42	..	953	733	125	15	873	80
South do.	305	244	261	810	305	108	246	659	151
Salem	1,168	16	70	1,254	966	16	134	1,116	138
Trichinopoly	236	..	..	236	197	.	.	197	39
Tanjore	25	..	..	25	19	..	..	19	6
North Coimbatore	1,952	— 3		1,949	776	..	502	1,278	671
South do	584	..	..	584	566	..	..	566	18
Madura	(*a*) 563 — 19	..	(*a*)—51	493	500 +(*a*) 3 — 27		..	476	17
Tinnevelly	590	..	..	590	589	..	..	589	1
North Malabar	261	— 8	.	273	261	.	..	261	12
South do	327	..	.	327	299	..	.	299	28
South Canara	1,025	— 1	..	1,024	144	8	..	152	872
	8,120 (*a*) —19	314	336 (*a*)— 51	8,700	5,486 (*a*)+ 3 — 27	282	902	6,646	2,054

(*a*) Due to recomputation of areas

The area, viz., 336 square miles, added to reserved lands during the year, consists of 15 square miles in South Arcot constituted under the rules under section 26 of the Act, and 321 * square miles notified for settlement under section 4.

Chingleput	5
South Arcot	246
Salem	70
Total	321

The latter area was transferred from Reserved Lands for settlement within the year besides 581 † square miles so transferred from areas of reserved lands constituted in previous years. The area of reserved lands not yet placed under settlement amounted to 2,054 square miles at the close of the year.

† North Arcot	15
Salem	64
North Coimbatore	502
Total	581

The unclassed or "other forests" as far as they were recorded, showed a balance of 1,240 square miles on 31st March 1891. Further areas are now being recorded with reference to Government Order, No. 844, dated 29th October 1890, but the selection of these new areas cannot be expected to proceed rapidly and satisfactorily unless the District Forest-officers concerned are relieved of their routine duties.

11. *Boundaries.*— The following lengths are reported to have been taken in hand for demarcation:—

	Miles	Cost	Average.
1	2	3	4
		Rs.	Rs A. P.
Up to 1889-90	7,585	71,786	9 7 5
During 1889-90	1,290	13,297	10 5 0
During 1890-91	1,631	20,242	12 6 7
Total	10,506	105,325	10 0 5

The information called for by Government in its review on the last annual report in regard to preliminary and permanent demarcation in each district since the commencement up to date will be furnished next year, as the particulars to hand from

District Forest-officers are not in most cases sufficiently complete or accurate for the purpose intended, and require careful scrutiny. Meanwhile the length demarcated during the year may be considered more or less permanent, with the exception of 100 miles in South Canara reported to be preliminary demarcation purely for the purpose of settlement.

The increase in the average cost is due to more effectual clearing of lines and the erection of substantial boundary marks (stone cairns) in most districts. In North Arcot, notices were served on 10 owners of private forests to clear their boundaries. None of them did so except the Mahunt of Tirupati and another Poligar. The work was therefore begun departmentally, the charges being recoverable from parties concerned.

In South Arcot, the boundary of the jaghir of Kurumbagoundennád (Kalroyen hills), running contiguous to the southern boundary of the Tiruvannámalai taluk, was cleared by the department to a length of nearly 10 miles and to a width of 6 yards at a cost of Rs. 327 recoverable from the jaghirdar.

In Salem, notices were served on 4 owners of private estates to cut and clear their boundary lines adjoining Government forests. Three of them had not completed the work at the close of the year, and in the case of the fourth (Chinna Kalroyen jaghirdar), the work was ordered to be done departmentally.

In Madura, the final demarcation of the southern boundary of Yersakanayakanur zemindari was not completed. After very great delay, the zemindarni wrote expressing her willingness to abide by the boundary demarcated in a preliminary manner by Mr. Gass. She was then requested to send her share of the estimated cost of the permanent work, but had not done so up to the close of the year.

A portion of the Ayakudi zemin boundary was finally corrected by the Survey Department in favour of Government, and an appeal against it was preferred to the district, but rejected with costs.

In North Malabar, the demarcation of the 13 blocks of Kudrakote reserved forest is not complete. The work actually done during the year is included in the above abstract.

In South Malabar, the demarcation of the new Amarampalam forests was still delayed at the close of the year for want of a special ranger for the work, as explained in the last annual report.

The demarcation of the Chenat Nair reserved forest in Pálghat range was completed by Forest Ranger Mr. Van Haeften.

CHAPTER III.

Surveys and working plans.

12. Surveys have cost Rs. 80,813 during the year, *i.e.*, Rs. 70,564 for the Survey of India Party and Rs. 10,249 for Departmental surveys, &c.

The approximate figures of the total outturn of work by the Government of India survey party during the season 1890–91 are reported by the Deputy Superintendent in charge of the party as follows : —

District	Triangulation, Square miles	Traversing, Linear miles	Topography, Square miles.
Coimbatore	800	34·3	..
Madura	250	93·7	168·3
Tinnevelly	Supplementary.	146·3	271·8
Total ..	1,050	274 3	440 1

The outturn of work (topography in particular) during the year is more satisfactory, being 60 square miles in excess of that of the two previous years put together. The cost per square mile shows also an appreciable decrease.

The whole question of cost was fully discussed at a conference held in the Revenue Board's office at Madras in April last, at which the Surveyor-General was present. The conclusions arrived at were chiefly to the effect that expenditure could not be reduced, but that outturn of work could be increased, the working season to be not less than 6½ months, commencing and ending rather earlier than at present.

In North Arcot, one proposed reserve, Alwartirtam block, Chandragiri taluk, was surveyed by a temporary surveyor employed by the department and maps of 23 blocks, notified under section 4 and duly settled, were prepared.

In South Arcot, the outline, as well as the interior lines and admitted enclosures of Fort Saint David, Shonankuppam and Doni Durai blocks (casuarina plantations) in No. IV, Cuddalore range, were surveyed departmentally, and accurate maps on a scale of 16 inches to the mile, showing full details as to blanks and areas of different years' planting, prepared for purposes of working plan for the coast plantations.

In Salem, Trichinopoly and Tanjore, the services of temporary surveyors employed were chiefly utilized in preparing accurate sketch-maps of proposed reserves. In South Coimbatore a temporary surveyor was employed for a few months in connection with the revision of the Bolampatti working scheme, &c.

In Madura and Tinnevelly, clearing of lines for survey purposes was carried on satisfactorily at a cost of Rs. 3,441 and Rs. 2,730, respectively. In the former, the lines embraced 19 blocks of forests with an area of 144 square miles, whilst in the latter the clearing was chiefly confined to the Tinnevelly-Travancore boundary (70 miles in length) besides interior lines and pathways.

In accordance with the orders of Government, the survey of the Kotagudi valley in Madura, the control over certain forests of which it is proposed to obtain, was carried out with the help of a Deputy Surveyor lent to the department for the purpose. The boundary traverse was completed at a cost of Rs. 1,129; no topographical work was done.

In South Canara, departmental survey work went on as usual and about 76 square miles were mapped. The work was partly the mapping of demarcated blocks, and partly in advance of selection.

The areas reported as surveyed departmentally up to the end of the year are as follows:—

	Square miles	Cost.	Remarks
1	2	3	4
		Rs	
Up to 1889-90	1,449	17,839	
During 1889-90	75	6,083	Includes Rs 4,599 expended on line clearing for survey by the Government of India party
During 1890-91	76	10,249	Includes Rs. 6,171 expended on line clearing for survey by the Government of India party and Rs. 1,129 for the survey of the Kotagudi valley
Total ..	1,600	34,171	

The Madras survey maps of Kodaikánal settlement and of the Pálni hills were not received. The decision of the Deputy Superintendent of Madras Survey in regard to the disputed boundary of Kodaikánal shola, referred to in the last annual report, has never been communicated to this department, notwithstanding several reminders sent to the Survey Department by the District Forest-officer.

13. *Working plans.*—In Chingleput, no real progress was made during the year. Compartment lines were marked in the Ambakkam, Aradur and Palavakkam reserves. The District Forest-officer's hands were otherwise full. He was, therefore, unable to rectify the defect in the proposed working plan for the Kambakkam reserve, &c., referred to in the last annual report.

In North Arcot, the Conservator was much disappointed to find during his last inspection, that certain important suggestions made by him during a previous inspection in regard to the formation of working circles for supply of fuel to railways, &c., had been entirely lost sight of, and even the working scheme for felling and replanting the casuarina plantations largely deviated from without any authority. The Collector has been duly informed of this fact, and the present Acting District Forest-officer, Mr. Marshall, who is doing his best to rectify matters, has undertaken to draw up for the Conservator's approval a new working scheme for the plantations and reserves.

In South Arcot, an enumeration of the growing stock of the undermentioned blocks was made during the year at a small cost in view to framing a working scheme:—

	Trees from seed.	Trees from coppice.
Fort Saint David	26,013	2,075
Shonankuppam	39,228	33,986
Total ...	65,241	36,061

In Trichinopoly, the sanctioned working plan of the Cauvery south bank plantations is reported to have been adhered to.

In Salem, the felling of produce in the Bargúr reserved forest under coupe system was started in the latter part of the year as desired by the Conservator, but the working plan for the Morur block had been deviated from without authority.

In South Coimbatore, the revision of the working plans, referred to in the last annual report, received attention and is expected to be completed during the current year.

The working scheme for the Sholakarai block was revised during the year. Its provisions have been strictly adhered to, and the result is most satisfactory. The three coupes (total area 128 acres) felled over during the year for fuel poles, &c., yielded a revenue of Rs. 2,274. The rotation being 12 years, the revenue per acre per annum amounts to 1·48 rupees. For bamboos 7 coupes (total area 254 acres) were felled over, which yielded a revenue of Rs. 1,076; the rotation for bamboos being four years, the revenue per annum per acre amounts to 1·05 rupees.

The working plan for some of the forests in Pollâchi No. 2 range, drawn up by Mr. Porter and experimented with, has yet to be approved of and sanctioned.

In Madura, the proposed working plans for Alagarmalai and Gundanshola have not yet passed the experimental stage, and have not therefore been submitted by the District Forest-officer for approval.

In Tinnevelly, much data have been collected from all the coupes in the district, which will be most valuable for determining the yield, local demand, and rate of growth when working plans are framed.

In South Malabar, the working plan of the Wâlayâr reserve was, after revision, sanctioned by the Conservator, and the working during the year carried out in accordance with the sanctioned plan with the results as shown in Appendix A.

In the Nilambúr plantations (South Malabar) the provisions of the preliminary working scheme for *thinnings* drawn up in 1885 were applied up to the end of 1889-90 with necessary modifications and with the best results, as has already been reported in the Conservator's last inspection note. The thinnings during the year under report were regulated in accordance with a fresh preliminary working scheme for another 5 years since prepared. The result of the year's working is shown in Appendix B.

CHAPTER IV.

PROTECTION AND IMPROVEMENT.

(a) *Establishment, Ranges and Beats.*

14. *Establishment.*—The establishment for the circle consisted of—

	For the year 1889-90	For the year 1890-91	Difference.
Permanent			
Conservators	1	1	..
Deputy Conservators	8	8	..
Assistant do.	5	7	+ 2
Sub-Assistant do	7	8	+ 1
Forest Rangers	33	33	..
Foresters	77	77	..
Forest Guards	396	396	..
Clerks	88	88	..
Peons	108	108	..
Temporary			
Supervisors	61	64	+ 3
Surveyors	2	5	+ 2
Draughtsmen	1		
Depôt-keepers	10	8	— 2
Watchers	852	863	+ 11
Tannahdars	289	289	..
Lascars	7	3	— 4
Gardeners	78	56	— 22
Clerks	9	8	— 1
Peons	18	18	..
Total	2,050	2,040	— 10

The revised proposals on account of permanent subordinate establishments referred to in the last annual report were submitted during the year. The Conservator has since had several interviews with Board and Government on the subject, and the sanction of the latter for the new scale is shortly expected. The division of districts into range charges, beats, &c., will be regulated in accordance therewith. At this stage it appears unnecessary to refer under this section of the report to the trifling variations during the year in the number of range charges, &c., from what existed previously.

(b) *General Protection and Breaches of Forest Laws.*

15. General protection has not been adequate as may be inferred from the following figures and notes relating to the breaches of the forest laws in the several districts of the circle.

Preventive measures to the extent desirable have not been possible with the limited establishment at our disposal, but more rigorous exaction of duties from all grades has been as far as possible insisted on :—

District or Division.	Brought forward from the previous year.	Added during the year.	Cases disposed of during the year.								Balance remaining undisposed.
	Number of cases.	Number of cases.	Number of cases disposed of.	Number of persons concerned.	Percentage of cases withdrawn to the total number disposed of.	Percentage of cases compounded to the total number disposed of.	Amount of compensation realized.	Percentage of cases disposed of by the magistracy to the total number disposed of.	Percentage of cases in which convictions were secured to the total number disposed of by the magistracy.	Percentage of cases acquitted to the total number disposed of by the magistracy.	Number of cases.
1	2	3	4	5	6	7	8	9	10	11	12
							Rs.				
Chingleput ..	..	156	155	323	..	10	50	90	72	28	1
North Arcot ..	7	334	329	721	..	64	2,353	36	64	36	12
South Arcot ..	105	723	468	1,224	4	74	2,740	22	84	16	360
Salem	29	747	744	2,752	7	18	644	76	81	19	32
Trichinopoly ..	78	747	771	1,495	..	57	1,295	43	81	19	54
Tanjore	4	26	18	155	..	50	13	50	100	..	12
North Coimbatore.	7	132	99	283	12	73	1,088	15	47	53	40
South Coimbatore.	12	349	302	1,092	5	70	1,963	25	95	5	59
Madura	..	18	16	61	..	13	31	88	64	36	2
Tinnevelly ..	5	124	120	365	7	4	109	89	78	22	9
North Malabar ..	..	22	22	41	..	73	203	27	83	17	..
South Malabar ..	2	32	34	65	..	3	25	97	73	27	..
South Canara ..	69	262	270	393	..	20	160	80	87	13	61
Total for 1890-91.	318	3,672	3,348	8,970	3	45	10,674	52	80	20	642
Do. 1889-90.	207	2,679	2,568	6,461	4	46	8,662	50	70	30	318
Difference for the year under report	+ 111	+ 993	+780	+2,509	− 1	− 1	+2,012	+ 2	+ 10	− 10	+ 324

There were 318 cases pending disposal at the beginning of the year. The number of new cases during the year amounted to 3,672. Of the total, viz., 3,990 cases, 3,348 were disposed of within the year, leaving a balance of 642 cases undisposed of at the close of the year. The number of new cases shows an increase of 37 per cent. over that of the preceding year. The increase is chiefly in offences of unauthorised felling of wood and grazing without permission, principally in the districts of Chingleput, North Arcot, South Arcot, Salem, Trichinopoly and Coimbatore. Of the cases disposed of during the year, 52 per cent. were by Magistrates, 45 per cent. by "compounding," and 3 per cent. by "withdrawals" against a percentage of 50, 46 and 4, respectively, in the preceding year. Conviction was secured in 80 per cent. of the cases prosecuted before Magistrates as against 70 per cent. in the preceding year, which goes to prove that the zeal of the forest subordinates has not been altogether misspent. The

compensation realized on account of offences compounded shows an average of Rs. 7–0–11 per case and Rs. 2–14–5 per person accused as against Rs. 7–4–9 and Rs. 3–2–5, respectively, in the preceding year.

In Chingleput there were no prosecutions for unauthorized grazing in the forests, but in all such cases cattle were impounded. Great difficulty was, however, experienced in taking such cattle to the pounds, which are in most cases miles distant from our forests. The owners attempt to rescue the cattle either by force or otherwise while on their way to the pound. In one case, which occurred in the Chingleput range, a Forest guard was actually assaulted The offenders were, however, convicted and fined Rs. 35 for unlawfully rescuing cattle, of which Rs. 10 was awarded as compensation to the Forest guard.

In North Arcot, the total number of cases for the year exceeded that for the preceding year by 79, which is an increase of 30 per cent. The Collector attributes this to the ubiquitous activity of the Acting District Forest-officer Mr. Marshall and remarks that much as he deplores the increase of prosecutions, he cannot say that any of them was uncalled for. In a case of goat grazing detected by the Acting District Forest-officer himself, the Tahsildar-Magistrate of Wandiwash inflicted a fine of only Rs. 3 for 150 head of goats. Two very important cases were detected in Pólúr, in one of which 6 men were convicted by the Sessions Judge and being old offenders were sentenced to rigorous imprisonment for periods varying from 3 months to 4 years. A wealthy merchant of the Labbai caste was also convicted for bringing out 2 cart-loads of Namai (*Anogeissus*) posts and fined Rs. 150. The conviction was upheld on appeal. In another case of illicit burning of charcoal, accused was fined Rs. 60. All these occurred in the Pólúr taluk and the punishments awarded have had a most beneficial effect.

In South Arcot the increase in the number of offences chiefly falls under grazing. The forests in the district were actually overrun by foreign herds of cattle and payment of grazing fees evaded as far as possible.

In Salem the greater number of cases were filed in the Tahsildar-Magistrate's Court of Atúr. This is reported to be due to illicit fellings carried on with the connivance of jaghir contractors.

In Trichinopoly the increase in the number of offences was chiefly under grazing as in South Arcot. In the matter of conviction for other offences, 2 cases are noteworthy as regards the adequacy of the punishment awarded, viz., one of unauthorised felling of 8 cart-loads of first-class timber by a village munsif, in which a fine of Rs. 150 was inflicted, and the other, of illicit clearing of an acre of kasan (*Memecylon*), by a ryot, who was convicted and fined Rs 75. The 3 cases of "injury to forests by fire" are those in which Kasan jungle had been cleared and converted into charcoal.

In Tanjore one case deserves notice in which 5 persons out of 7 were convicted for shooting without license in the Kodiyakadu forests. The accused were heavily punished and a reward of Rs. 25 was given to 2 watchers and 1 private individual who exerted themselves in detecting the offence.

In South Coimbatore the large increase in the number of forest offences detected during the year is attributed to the fact that Forest Rangers Messrs. Mariapragasam Pillai and Ryan, who have replaced Foresters Sakaram Row and Sheffie Sahib in charge of Polláchi No. II and Mettupálaiyam No. VI ranges, respectively, worked hard and conscientiously, with the result that the number of cases reported has risen from 5 and 12 during the 2 foresters' time, to 73 and 133 respectively. The foresters referred to were both inefficient and notoriously lazy, always shirking out-door work. This fact proves how the protection of forests can be rendered more effectual by placing responsible and trustworthy men in charge of forest ranges.

(c) *Forest Fires and Fire Protection.*

16. The actual expenditure adjusted during the year under fire-protection amounted to Rs. 22,221 against Rs. 20,194 in the preceding year.

Forest fires cannot be properly recorded until the system of fire-record maps is introduced in all districts, but such maps cannot well be prepared until general maps of forest reserves are made available. Meanwhile, the rough estimates of forest fires in untraced areas are continued.

The following is an abstract of results:—

ABSTRACT I.—Fire-protection in square miles.

—	Up to 1889-90		During 1889-90			During 1890-91			Total cost per square mile.
	Forest reserves attempted	Total cost per square mile.	Attempted	Percentage which escaped	Average cost per square mile.	Attempted	Percentage which escaped	Average cost per square mile.	
1	2	3	4	5	6	7	8	9	10
		Rs							
Fire traced	1,502	67	1,910	99	10	2,045	99	11	70
Untraced .. .	6,596	..	6,524	70	..	6,657	70	.	
Total ..	8,098	..	8,434	..	..	8,702	..	..	..

One hundred and thirty-five square miles have been added (as per margin) during the year to the fire-traced area as against 408 square miles in the preceding year. Increased areas have not been brought under protection in Salem, North Coimbatore, &c., as was expected, owing to change of District Forest-officers, the time of the new or acting officers having been fully occupied otherwise.

2 blocks	15 sq miles	in North Arcot.
3 ,,	38 ,,	in Trichinopoly
3 ,, (extension)	13 ,,	in South Coimbatore
2 ,,	16 ,,	in Tinnevelly.
1 ,, (extension) New Amaiampalam forest	53 ,,	in South Malabar
Total 11 blocks	135 square miles	

The average cost per square mile of area under special protection amounted to Rs. 11 as against Rs. 10 in the preceding year. The increase is chiefly due to the unusual length of the dry season, especially in the districts of Salem, Coimbatore, Madura and Tinnevelly, where the average cost of the preceding year was largely exceeded. The rates vary considerably as in previous years. The average cost per square mile in South Canara continues high owing, as explained by the District Forest-officer, to the areas protected being small and of irregular shape. A satisfactory diminution of cost has, however, been effected in the Coondapoor range.

The percentage of success in the protected tracts was the same as that of the preceding year, viz., 99 per cent.

The percentage of areas burnt was about 5 in South Malabar, 2 in South Arcot, Madura, Tinnevelly and North Malabar, and 1 in Chingleput and North Arcot. Protection in the remaining districts may be regarded as completely successful.

In Chingleput there was one fire in the Nagalapuram and one in the Kambakam reserved forests. The area burnt in each case was about 100 acres. In Nagalapuram the fire was probably due to incendiarism; no great damage was caused. At Kambakam the fire extended into the reserve from the fire lines through the carelessness of a forest guard who was at once suspended from duty. The area burnt contained a fair number of seedlings of thumba and red sanders.

In North Arcot, 2,374 acres were burnt in 10 blocks, but the Conservator still questions the accuracy of the returns from this district.

In South Arcot, 7 fires occurred in 3 blocks, and burnt about 2,700 acres, doing no great damage.

In Salem, arrangements have been made to clear the trees and bushes between railway fences and forest reserve boundaries for the better protection of the fuel reserves adjoining the railway.

In Madura, 10 fires occurred in 7 blocks and 4,290 acres were burnt varying from 30 to 1,920 acres; 3 of the fires were supposed to have been caused by the Periyár works' coolies; 2 spread from Travancore and from the Upper Palni plateau, respectively; one (a disastrous fire) was apparently caused by negligence in fire-tracing; and the remaining fires are attributed to incendiarism.

In Tinnevelly, 2,700 acres were burnt in 4 blocks. The District Forest-officer attributes them to the exceptional drought experienced during the year, the monsoons failing almost entirely.

In North Malabar, the Begur and Kurchiyat reserved forests were successfully protected with the exception of 680 acres in the latter, which was set on fire by the Kurumbas trapping for bison. They were prosecuted and sentenced to a month's rigorous imprisonment.

In South Malabar, an extensive fire occurred in the new Amarampalam forest, which was partially brought under fire protection. The area burnt is estimated at 4,000 acres. All the undergrowth, dead trees and old logs which were lying in the forest before it came into our possession, were burnt. The fire originated from within the fire lines and was apparently due to incendiarism. The Forester (Isaac Mathews) in charge of the range, who was found to be wanting in zeal and tact in managing his subordinates (some of whom are hillmen), was at once replaced by another officer.

The Collector of Malabar remarks:—

"The fact that only one fire—and that the work of an incendiary—occurred during this season, which has been the driest known for many years, proves the efficiency of the measures taken by the District Forest-officers"

(d) *Grazing.*

17. The policy of Government in regard to grazing was modified by Government Order, dated 29th October 1890, No. 844, Revenue, communicated by the Board in January 1891. The policy previously laid down was therefore practically followed during the year under report in regard to rates of grazing fees, &c.

The year's results may be gleaned from the figures in the following table:—

ABSTRACT J.—Grazing and Grass Collections.

Items	During 1889–90			During 1890–91.		
	Number of cattle	Amount of revenue.	Average rate per head of cattle	Number of cattle.	Amount of revenue	Average rate per head of cattle.
1	2	3	4	5	6	7
			Rs. A. P.			Rs. A. P.
By grazing per head	484,541	60,720	0 2 0	569,786	62,825	0 1 10
By grazing contracts and sale of grass	..	3,655	..	..	5,920	..
Total	..	64,375	..	..	68,745	..

The reduction in the average rate, which is small, is probably due to a better enumeration of cattle grazed during the year. Compared with the preceding year, the total revenue for the circle shows an increase of Rs. 4,370 only. North Coimbatore as usual collected the largest amount in the circle—Rs. 20,694 against 23,091 in the preceding year. The decrease is attributed by the District Forest-officer to reduction in the number of foreign cattle which came up for grazing during the year, and to the fact that cattle disease prevailed largely in the Kollegál and Satyamangalam forests. Free grazing was also continued in this division as usual, and practically the whole of the reserved areas were thrown open for grazing. Salem comes next with a revenue of Rs. 14,096, which is an increase of only Rs. 2,080 over that of the preceding years, the rates levied in the district being abnormally low.

North Arcot stands third with Rs. 7,885 as against Rs. 4,466 collected in the preceding year. The increase is due simply to better supervision. Nevertheless the Acting District Forest-officer thinks that a large number of cattle grazed without permits especially in Pólúr and Palmanér.

South Coimbatore stands fourth with Rs. 6,435 as against Rs. 10,341 in the preceding year. The decrease is nominal, as owing to a change in the period for which permits were issued, a portion of the revenue which belonged really to 1890–91 was collected and credited to 1889-90. Rs. 1,648 was also realized in this division by sale of grass, &c. In South Arcot the revenue rose from Rs. 2,683 in 1889-90 to Rs. 4,829 during 1890–91. The increase accrued principally from fees levied on a considerably larger number of foreign cattle which grazed during the year in the Tiruvannámalai range forests.

North Malabar, Tinnevelly, Madura, Chingleput and Trichinopoly collected sums ranging from between Rs. 400 to Rs. 2,500. In Trichinopoly the right of grazing and cutting grass in the Cauvery and Coleroon padugais and plantations was leased out for Rs. 4,005.

There have been no irksome restrictions anywhere as to grazing, and areas where grazing has been absolutely prevented have been few and comparatively small. No fees whatever have been levied for grazing in unreserved lands, and the free removal of grass has been permitted and encouraged wherever possible. The Conservator's views on the new policy of Government in regard to grazing are already before the Board in his letter No. 2770, dated 7th February last, printed with Board's Proceedings of the 23rd idem, No. 76, and his later communication dated 15th June last, No. 731.

Information called for by Government in its Order, dated 7th May 1890, No. 314, is still due from certain districts. A consolidated statement for the circle will, however, be prepared and submitted as soon as possible if it is still required. In regard to the hay-making experiment in North Arcot, the Collector (Mr. LeFanu) remarks : "It is useless to cut fodder when the heavy spear grass has seeded. What we ought to do is to carefully burn small areas so as to start fair and then make our hay when the grass is half-grown." It was useless to try and do anything last year owing to the failure of monsoon and Mr. Marshall's heavy work in other directions. Thorough protection must precede any improvement in the fodder-supply, and the policy of "throwing open reserves" to an unlimited number of cattle on the occurrence of any scarcity in pasturage should, in the Conservator's opinion, give place to a system of cutting the grass and even leaves under supervision, which would afford relief both to men and cattle whilst improving instead of ruining the forests and grazing grounds especially on steep hill slopes.

(e) *Natural Reproduction.*

18. The following notes have been abstracted from the district reports :—

In Chingleput, reproduction from seeds has not been very successful. All the seedlings wither away in the succeeding hot weather in the plains. The reproduction from seed of bamboo in the Nagalapuram valley is promising. In the Saidápet range reproduction even in the protected areas is not satisfactory. Protection has doubtless resulted in a regrowth of some kind, but valuable species are very scarce. Grass is abundant with seedlings of less valuable trees. The absence of mature and seed-bearing trees in the protected areas doubtless accounts for this. The growth of scrub is very promising in these areas, which in the opinion of the Conservator indicates that, with due attention to cultural operations, they may be reclothed ere long with more valuable species.

In North Arcot, natural reproduction is very poor in almost all the taluks owing to fires and extensive grazings, especially in the dry *Acacia amara* forests of Gudiyátam, Chandragiri, Vellore and Palmanér. On the Javadis also, reproduction has been very poor except in the Carnaticghur reserve, where no grazing has been allowed, and in some of the out-of-the-way valleys below Patrakad, where it has been fair, consisting principally of *Anogeisus*, *Terminalia tomentosa* and inferior species. Reproduction of sandalwood is very poor when it ought to be the reverse. This is not to be wondered at when, as a matter of fact, thousands of goats have been allowed to roam all over the forests. Two areas have been enclosed by rough bamboo fences and the work will be continued. Probably the Bamboo (*B. arundinacea*) clumps require to be cut over to let in more light in many places. *Dendrocalamus strictus* is seeding on a small scale throughout the lower slopes and on a large scale in Chamala, which latter area has been rigidly closed against grazing. In the Napier and Mamandur reserves, reproduction of Red Sanders (*Pterocarpus santalinus*) continues to be fair; that of Satinwood (*Chloroxylon swietenia*) is excellent but patchy. Regrowth from stools is poor in compartments 1 and 2 of the Napier reserve, swept over by a fire in 1889 soon after it was cut over, but in Mamandur it is very fair, chiefly from soft-wooded species under which a considerable number of *Hardwickia* and *Anogeisus* seedlings are asserting themselves. In Chamala and Tirupati hill reproduction is fair, but chiefly it is feared from stools of repeatedly burnt-down seedlings. Prospects in Peddur and Musalimadugu reserves in the Palmanér taluk are encouraging. In unreserved lands reproduction is of course absolutely *nil*.

In South Arcot seedlings of Vengai (*Pterocarpus marsupium*), Namai (*Anogeisus latifolia*), teak and sandalwood abound on the slopes and plateaus of hill forests chiefly in Anaimalai, Tenmalai and Sanimalai reserves in the Tiruvannámalai range, and the seedlings and saplings of Acha (*Hardwickia binata*) are thriving well. The reproduction of Thurinji (*Albizzia amara*) and Babul (*Acacia Arabicà*) has been fair in some parts of Tindivanam. In the Kallakurchi range seedlings of Satin (*Chloroxylon swietenia*), Babul (*Acacia Arabica*), Velvelam (*Acacia leucophlœa*) and Karungali (*Acacia catechu*) are plentiful, but the reproduction on the whole is not satisfactory owing to overgrazing. In the Tirukoilúr range reproduction from seed is a failure.

Reproduction by coppice is a failure on the Tindivanam range and not very satisfactory in the Villupuram range. This is attributed to the very unfavorable season experienced.

Coppice from casuarina stools in the Cuddalore range is also unsatisfactory, 85 per cent. having failed. The Conservator has repeatedly urged that casuarina coppice cannot be depended on and will never pay. Coppice from Kasan (*Memecylon tinctoria*) and Thurinji (*Albizzia amara*) in the Vriddháchalam range is fairly rapid and successful. This is to be attributed to the soil being sandy and affording little or no pasture, and to the leaves of the prevailing growth (kasan) not being resorted to by cattle.

In Salem, the advance growth from seeds in specially-protected areas is promising, but in the open areas it is backward owing to overgrazing. In other forests where the forest is thick with bamboos and thorns, sandalwood seeds have germinated profusely and the seedlings have escaped being grazed down owing to the impenetrable nature of the growth.

In Trichinopoly, reproduction is reported to be profuse from seeds of the Bamboos, *Wrightia tinctoria*, *Santalum album*, *Pterocarpus marsupium*, *Chloroxylon swietenia*, *Feronia elephantum*, *Terminalia arjuna*, *Tectona grandis* and *Hardwickia binata*, on the Pachamalais, and from *Acacia Arabica* and *Leucophlœa* on the tank-bed reserves in the plains.

In Tanjore, reproduction from seeds of Palai (*Mimusops Indica*), Vembu (*Melia Indica*), Nagai (*Eugenia jambolana*), Pungam (*Pongamia glabra*), Vagai (*Albizzia Lebbeck*), Karungali (*Acacia sundra*) and Velvelam (*Acacia leucophlœa*), as well as the coppice growth of Kasan and Avaram (*Cassia auriculata*) in most of the reserves is reported satisfactory. In North Coimbatore, reproduction is excellent in the evergreen and semi-evergreen forests on the slopes of the Billigirirangas (Doddasampagai), but very poor in the deciduous forests above ghâts. Similarly the reproduction of fuel-producing trees below ghâts is very poor. The growth of sandalwood in the specially-protected sandalwood reserves and of Karuvelam (*Acacia Arabica*), Velvelam (*Acacia leucophœa*) and Margosa (*Melia Indica*) on the specially-protected fuel and fodder reserves is encouraging.

In South Coimbatore, reproduction from coppice in the Sholakarai block is all that can be desired, and in the coupes felled over, seedling reproduction of teak, rosewood, and vengai is most satisfactery.

The germination of seeds is apparently due to the small amount of undergrowth and to the loosened condition of the soil. In the mixed high forests there is practically no reproduction of the superior classes of trees owing to rank undergrowth and unsuitable state of the soil. Mr. Porter attributes the absence of teak seedlings solely to this and not to the causes (necessity for a sort of natural rotation) suggested in paragraph 14 of the Board's Review on the last annual report. Careful experiments with regard to reproduction are being prosecuted on the Anaimalais, but last season was unfavorable for them.

In Madura, natural reproduction is slow and backward on the Alagar hill slopes facing Madura, Waguthumalai, Murugamalai, on parts of the Palni hill slopes, Perumalmalai, Poombarai Vilpatti valley and the Sirumalai slopes, notwithstanding fairly good protection. The unsatisfactory results are considered to be due to the ground being stony and covered with a heavy growth of rank grass and thorny shrubs. In some places, *e.g.*, the western portion of Pambar, a large part of Alagar hill and parts of Vannathiparai, the improvement is marked. The coppice growth at Kadavur in Alagar hill is very good and even in the most recently felled and exposed parts of Vemburuli it is fair. The Gallnut (*Terminalia chebula*) has never been observed to reproduce itself from *seed*. The high rank grass probably prevents seedlings coming up.

In Tinnevelly, the District Forest-officer under head "Evergreen forests" records that in some places where clean cuttings have been made in primeval forest by the Kanis (hillmen), a most abundant crop of Kongoo (*Hopea Wightiana*) seedlings has sprung up. Kongoo is the most valuable timber in the district in much favour amongst natives. The District Forest-officer therefore considers the rapidity of its reproduction on a cleared area quite a noteworthy feature from a financial point of view.

In the deciduous forests in this district under special fire-protection, the reproduction in the coupes under the coppice with standard system is all that can be desired.

Reproduction from seed in the coppice coupes is not very successful as the teak seedlings generally succumb to the heat.

In North Malabar, reproduction from seed continues unsatisfactory, especially of teak, which is in fact *nil*. There is a scanty natural reproduction of vengai, blackwood and matti. It is believed that the hardness of the ground and the mass of rootlets which doubtless bind the soil prevent reproduction. The soil around 20 teak trees in different localities was turned over in view to ascertaining whether the loosening of the soil and the removal of the undergrowth would in any way improve matters. The results could not of course be ascertained till after the monsoon.

In South Malabar, the reproduction from seed especially of Benteak (*Lagerstræmia microcarpa*) and Blackwood (*Dalbergia latifolia*) in the Nellikutta and Karompoya reserved forests (rigidly protected from fire and cattle since 1883) is conspicuous, and coppice growth is also visible to a fair extent. Here also the remarkable absence of teak seedlings is attributed to the fact that the ground is too hard to receive the seeds which are believed to be eventually washed away by the heavy rains. There are, however, a few stool shoots. In the Chenatnair reserved forest in Pálghat treated as high forest, the reproduction is all from seeds, and the rigid exclusion of fire and cattle during the past six years has resulted in the springing up of tree growth on all sides, Irul (Kylia seedlings) being most predominant with Vengai (*Pterocarpus marsupium*) and Rosewood (*Dalbergia latifolia*) on the rocky ridges and elevated lands. In the two blocks which form the Walayar reserve, viz., Pulamparai and Varlapadi, natural reproduction is all that could be desired, particularly from coppice in all the sub-compartments felled since 1884-85. Teak (*Tectona grandis*) is the predominant growth, and the number of shoots on each stump averages from 2 to 6. Although there is no difference in soil or treatment in both places, the growth of teak and other species is better in Pulamparai than in Varlapadi, owing to the former receiving more of the south-west monsoon.

In South Canara, the species that have hitherto been noticed as exceptionally good producers (without reference to particular circumstances) are enumerated by Mr. Peake as follows by way of nucleus to be added to in future years :—

By seed—
1. Vateria Malabarica.
2. Hopea parviflora.
3. Terminalia tomentosa.
4. Macaranga tomentosa.
5. Acacia catechu.
6. Dillenia pentagyna.
7. Corypha umbraculifera.
8. Caryota urens.

By coppice—
1. Butea frondosa.
2. Tectona grandis.
3. Cinnamomum zeylanicum.
4. Carallia integerrima.
5. Terminalias.
6. Lagerstrœmia parviflora.
7. Acacia catechu.
8. Phyllanthus emblica.

By suckers—
Albizzia is the only genus inclined to reproduce itself in this way that Mr. Peake has noticed.

The whole question of natural reproduction, especially of the more valuable species, demands the most careful attention and experiments in sylvicultural operations at the hands of the District Forest-officer and Range officers.

It is not too much to assert that the more valuable timbers, *e.g.*, teak, rosewood and vengai, were being exterminated in all accessible forest areas in the southern districts, first, from want of any protection, and later on by heavy fellings of all mature trees without any proper system or care for reproduction and insufficient protection.

We have now secured fairly good protection though the establishments are inadequate, but have still to introduce and carry out proper remedial measures to restock the forests.

This is emphatically the business of professional Forest-officers, and the Conservator only wishes they had more time to devote to it.

(f) *Artificial Reproduction, Regular Plantations, Cultural Operations and Topes.*

19. The results under this head are summarized in the following abstract and district notes. The increased outlay on regular plantations is owing to large areas replanted during the year, notably in North Arcot and South Arcot, and wire-fencing put around the Gundan shola plantation in Madura. The replanted areas are not shown under "Area added during the year" in our returns. The total expenditure on topes appears also larger owing to the fact of an outlay exceeding Rs. 2,000 for wire-fencing around the Kodaikánal shola in Madura having been debited to this head.

ABSTRACT K.—Plantations, topes and cultural operations in other areas from commencement.

	Up to 1889-90.		Added during				Total.	
			1889-90		1890-91			
	Area in acres.	Cost	Area in acres	Cost.	Area in acres.	Cost	Area in acres.	Cost.
		Rs.		Rs.		Rs		Rs.
Plantations	11,792	6,35,360	252	25,613	126	29,108	12,170	6,90,081
Topes	18,898	3,00,156	— 10	4,741	3	7,586	18,891	3,12,483
Other areas	3,846 and 100 miles of channel banks	36,732	357	2,302	175	2,148	4,378 and 100 miles of channel banks	41,182
Total ..	34,536 and 100 miles of channel banks	9,72,248	599	32,656	304	38,842	35,439 and 100 miles of channel banks.	10,43,746

In Chingleput, 11,061 casuarina seedlings were transplanted from nursery beds in the Meyúr plantation. Owing to the unusual dry season, there were about 14,000 casualties in the previous years' plantings; they were duly replaced.

Several small cultural operations were carried out experimentally during the year. The revenue from topes was Rs. 267 against Rs. 254 in the preceding year.

In North Arcot, the following areas of casuarina plantations were replanted :—

	Number of blocks or compartment.	Area in acres.
Virinjipuram	3	49·15
Tiruvellam	7	41·90
Kilminnel	1	26·10
Do.	2	37·07
Total ...	...	154·22

In addition to the above, replanting was done in blanks in Amundi and Sainur plantations. The total number of plants put out was 141,470.

Large quantities of seeds of various kinds were collected by guards and watchmen and sown either in patches or broad-cast in certain reserves and topes. The broad-cast sowings have not been successful, but those sown in patches produced a certain number of seedlings, which, however, did not thrive well owing to the exceptionally hot and dry season. Eucalyptus garden (6 acres) started near Palmanér during the year has been added to form No. 61.

Range-officers are unable to account for a large number of the topes supposed to be under their charge. The earnest attention of the Collector and District Forest-officer has been invited to the matter during the Conservator's last inspection, and it is hoped that all possible endeavour will be made to trace the missing topes. The Conservator fears that many of them may have been alienated under the dharkast

rules of the Revenue Department or otherwise, without reference to the Forest branch. These remarks apply to other districts also.

In South Arcot, 40 acres of felled areas in 3 blocks were restocked with 49,000 casuarina plants at a cost of Rs. 848. The operation was carefully conducted and properly supervised, and the plants are reported to be in a fairly flourishing condition.

Owing to the very unfavourable season, numerous casualties occurred, which were, however, soon replaced.

Cultural operations also received attention. In the Villupuram range certain areas were ploughed and seeds of nim and babul were sown; seedlings successful. In the Kallakurchi range 21 measures of different kinds of seeds were sown in several acres, but results were unfavourable owing to the partial failure of the monsoon.

Some of the "topes" appear to be still under the charge of the Land Revenue Department, but the District Forest-officer is arranging for the management being really transferred.

In Salem, the produce of topes was leased out to better advantage, and the receipts during the year amounted to Rs. 2,105 against Rs. 796 in the preceding year.

In Trichinopoly, about 13 acres of a coupe of 74 acres in the Cauvery south bank plantations were replanted with casuarina and *Cassia siamea* seedlings which are reported to be doing well. Six acres of the Coleroon padugais in the Trichinopoly range were restocked with casuarina plants and 3 acres (gaps) in the Udayárpálaiyam range were filled in with Sissu and *Portia* cuttings and bamboo plants, which are reported to be doing well.

In Tanjore, about 36 acres in compartments Nos. 1 and 2 of the south casuarina plantation at Vettangudi were restocked with 34,963 casuarina seedlings, and 5,500 failures were replaced in the northern and southern casuarina plantations.

Under cultural operations 7 acres at Nadur and 3 acres at Ovilekudi were dibbled with cashew nuts; 70 per cent. germinated and the plants were reported to be in good condition at the close of the year. 300 Iluppai (*Bassia longifolia*) plants were put down in the Kannanthangudi keelayur reserve and 50 Pinnai (*Calophylum inophyllam*) seeds were dibbled in Mallottam west block reserved forest; 90 per cent. of the former and 94 of the latter proved successful and were looking healthy at the close of the year.

In North Coimbatore, certain small works of improvement were carried out during the year in Bylur sandalwood plantation.

In South Coimbatore (Tunacadavu, No. 1 range) the undergrowth was cleared over an area of about 30 acres and teak and vengai seedlings planted. Blanks were naked here and there under or near seed-bearing teak trees, to cover the seeds. The north-east monsoon having failed, most of the plants died and the seeds did not germinate. For the same reason much progress was not possible in regard to the 50-acre block referred to in paragraph 19 of the last annual report. The Range-officer was unable to get sufficient water for preparing the nurseries in time. The undergrowth was cut down and burnt and some one-year-old seedlings were planted, but the majority of them perished for want of rain.

In Madura, the growth in the Vannathiparai teak plantation has been seriously hampered by some very large shade giving trees standing among the young teak. They should be removed. In Velancombai teak plantation there are some really good specimens near the channel, considering the age of the trees and the locality. The growth of eucalypti and acacias in the Post office plantation (Kodaikánal) is very dense in parts. The Assistant Conservator of Forests (Mr. Thornton) thinned out over 50 tons under instructions from Mr. Gass and utilized the same for the construction of a charcoal kiln.

The Gundan shola plantation was extended during the year by a further area of 20 acres, and a good many casualties were replaced both in No. 1 and No. 2 plantings of 1888–89 and 1889–90. The season was a very unfavorable one in all respects. The plantings of 1888–89 and 1889–90 are coming on very well; out of those of 1890–91, three-fourths are very good, and the remainder very poor, and will have to be gone over again this year. There was much frost, but the plants having been well covered, did not suffer much. The plantation was fenced with wire-fencing received from England, a good deal of levelling, draining and revetment work done and the road

system rendered complete and passable throughout for carts. It will, however, be necessary to blast away certain projecting rocks.

The Navinipati garden (tope) at Melúr was sold in the Revenue Department under instructions from the Board of Revenue and realized only Rs. 360. The garden will be removed from the list of topes next year.

In Tinnevelly, special experiments were made by sowing Wodai (*Acacia planifrons*) with agricultural crops, such as Cholum (*Sorghum vulgare*), Bengal-gram (*Cicer-arictinum*) and Madras-gram (*Dolichosuniflorus*), but the results were not very encouraging owing to the failure of the north-east monsoon.

The experiment will be repeated this year. The wodai seedlings readily germinated after passing through the goats, but failed for want of shade. The District Forest-officer states that this combination of forestry with agriculture has lately been successfully employed in Tunis.

In North Malabar, the teak plantations at Kanot were weeded, pruned and fire-traced as usual. The growth of the trees is reported to be far from rapid. In the Government cardamom garden at Mukki and the Mukki Poya cardamom plantation, the crop during the year was fairly good, but the amount realized by sale was very small owing to the low price ruling.

In South Malabar, teak planting with mahogany standards sanctioned in 1885 was continued and the fifth block (100 acres) for which a site was cleared in the preceding year was duly planted with 105,298 teak and 843 *Swietenia Macrophylla* seedlings; 164 bamboo plants raised from seeds of *Cephalostachyum* and *Bambusa Longispathus* were also planted in this block. The total cost of planting block No. V amounted to Rs. 3,495 against the sanctioned estimate of Rs. 3,600. There were only 6,070 casualties of teak, which were immediately replaced; 2,752 teak casualties in block No. IV were also made good. The growth of teak in blocks Nos. I to IV is good.

The *Swietenia Macrophylla* plants in block No. V keep pace with the teak and are vigorous. They are so far free from the borer which attacked the *Swietenia mahagoni* tried in previous years and now given up.

Of the 12 lb. of seeds of *Swietenia Macrophylla* received from the Superintendent, Royal Botanical Garden, Culcutta, in March last, 7 lb. were sent under instructions from the Conservator of Forests to nine District Forest-officers in the Southern and Northern Circles for experiment, and 1 lb. to the Ranger at Pálghat, Mr. Hadfield retaining only 4 lb. for Nilambúr. The seed germinated well and produced 2,500 seedlings which will be planted as standards in block No. VI, for which a site has already been prepared.

In South Canara, one acre of casuarnia 22 years old was cleared at Ullal. The yield including roots and branches amounted to 128 tons and 734 lb., the average annual acre increment being 5·8 tons. The mean of 4 years is now as nearly as possible 6 tons per acre per annum.

The demand for the wood was very slack during the year owing, apparently, to reduction in tile manufacture. The price obtained was only Rs. 3–5–0 per ton all round against Rs. 4–4–0 obtained in the preceding year.

(g) *Works of improvement.*

20. In Chingleput, the Pulrambakkam reserve was fenced with babul seedlings alongside of the trench made last year, but the result is not satisfactory.

In North Arcot, fencing of some sandalwood areas was done on the Javadis. All topes which have been identified and numbered by Range-officers have also been fenced, trees pruned and lopped and paths cleared; sign-boards were also erected. Prickly-pear was cleared in the Virinjipuram and Kilminnel plantations and Chittoor reserve. An improvement cutting was begun early in 1890 in an area of 22 acres of the Chamala reserve which was divided into four blocks for the purpose.

In South Arcot, about 11 miles of old patrol lines were re-cleared and about 14 miles of new lines cut, besides some fencing (about one mile) done in the reserves and topes.

In Salem, sign boards were put up to indicate the reserves, topes, rest-houses, &c., in the district.

In Trichinopoly, clearing of undergrowth and prickly-pear, cutting of creepers, weeding and fencing were carried on in the Cauvery and Coleroon plantations and padugais as usual.

In North Coimbatore, 14,040 palmyra seeds were collected and sown along the fences of three of the fuel and fodder reserves in the Erode taluk.

In South Coimbatore, the whole of the coupes felled over up to the end of 1889 in the Sholakarai block amounting to 619 acres were cleaned by the watchers and all the teak, rosewood, vengai and venteak seedlings freed of creepers and any coppice growth which dominated them.

This will have to be done annually till the seedlings become sufficiently high to take care of themselves. Some fencing was done in Kolampaliyam reserve in No. 5 range at a cost of Rs. 67, and prickly-pear was eradicated in Avanasi tope at a cost of Rs. 153.

In Madura, on both sides of the new road at Alagar Hill, 219 mango, pinnai and margosa plants were planted.

In Tinnevelly, the only kind of improvement fellings was in the coupes worked under the coppice with standard system. Considering the poor quality of the soil and the nature of previous growth (trees crooked and stunted) under the permit system of working, the best method of improvement felling that could be adopted was to cut down the whole growth flush with the ground and give the stumps a chance of reproducing shoots without continual molestation, and the results are very encouraging.

In South Malabar, weeding, pruning, parasite clearing, thinning and other operations were carried on as usual.

(h) *Experiments and exotic trees.*

21. The report on experiments with exotics, &c., which continued to progress as satisfactorily as usual, will be found in appendix C.

(i) *Communications and buildings.*

22. A comparison of the figures in the following table shows that better progress was made during the year under this section of works, the total outlay exceeding that of the previous years, more particularly under new works, both roads and buildings :—

ABSTRACT L.—Communications and Buildings.

Description of work	Cost during 1889-90	Cost during 1890-91.
	RS.	RS.
Road and bridge repairs	6,186	6,263
New roads and bridges	11,653	15,127
Building repairs	5,740	4,783
New buildings	11,912	17,518
Repairs and other new works	446	234
Total	35,937	43,925

23. Works consisted of—

In Chingleput, the addition of bath rooms and outhouses to the existing rest-houses, the want of which was very much felt. The buildings are, however, too small and only fit for natives or as offices.

In North Arcot, the completion of a rest-house at Virinjipuram which had been hanging fire for 2 years, the construction of an inspection shed on the hills above the Napier reserve, the purchase of the Palmanér Apothecary's quarters, reconstruction of a rest-house in Carnatic ghur, and general repairs of several rest-houses, the Amerdi bridge and 2 roads. The tramway at Virinjipuram was also maintained.

In South Arcot, the continuation of work on the Tenmalai ghât road, where the present Sub-Assistant Conservator Mr. Wouterz has done a great deal of useful work in widening, blasting, erecting rivetments, &c.; the construction of an inspection shed at Kálpadi, the reconstruction of that at Shanikulam, repairs to rest-houses on Kavuthimalai and Melpet (Tenmalai) and additions to the latter, also the clearing of a well in the Tiruvannámalai range office compound.

In Salem, the repairs of forest buildings as usual.

In Trichinopoly, the repair of the ghât road from Sobapanapuram to the rest-house on the hills and the construction of a bridle path to the rest-house.

In Tanjore, re-roofing the forest rest-house at Tirumalaivasal.

In North Coimbatore, the repairs of Lockanally, Hassanur, Bylur and Burghur ghât roads and forest buildings and the construction of a rest-house at Gairmalla.

In South Coimbatore, the construction of a bungalow and office for the Range office at Mount Stuart, lines for the peons and writer, a store shed for the tramway plant and tools, lines for the elephant establishment, and quarters for the Udumalpet Range-officer, and repairs to old buildings. Also the improvement of tramway line by decreasing the gradients and easing off curves, and in laying down 2 miles of new line from Pulitaniparai to Sangam, the construction of several new roads and repairs of other roads and bridges.

In Madura, the completion of the Alagar Hill road, which is 1 furlong under 8 miles in length and has an average gradient of 1 in 19, crossing a ridge of 927 feet above its level at the entrance to the reserve, opening a road about 4 miles long in Vannathiparai block of Cumbum valley reserve, a second in the Gundan shola and a third from Vembruli block to Nattam road, and repairs to other existing roads.

Also the construction of Range-officer's quarters and office buildings at Cumbum and Palamedu and Range-officer's and range-clerk's quarters at Kannavaipatti and Kodaikánal. respectively, and repairs to forest buildings.

In Tinnevelly, the tracing and cutting of a bridle path ($6\frac{1}{8}$ miles) from Shengalteri to Kanar, the conversion of Kottentari bridle path ($1\frac{1}{2}$ miles) into cart road: tracing and cutting of a road ($3\frac{5}{8}$ miles) from Otapuli to Kamugadi Moolai, the partial construction of the Forest-officer's bungalow at Mundauthorai and completion of rest-houses at Sivasylam and Courtallam and sinking a well in Vasudevanallur.

In North Malabar, the construction of 3 inspection paths, 3 new roads, 2 forest-guards' stations at Kaikaty and Karticolum and a store at Begur.

In South Malabar, the opening of about $1\frac{1}{4}$ miles of compartment road in the new teak plantation, nearly $1\frac{1}{2}$ miles of inspection paths and compartment roads in Walayar reserve and half a mile of bridle path to Kaner Kunnu (6 feet wide) in Chinat Nair reserve and the construction of a wooden bridge in the Amarampalam range and a rest-house and forester's quarters at Walayar.

In South Canara, the rebuilding of the hut in Sabladi.

A detailed list of completed forest buildings in the circle forms an appendix (D) to this report. A statement showing the financial results of working the tramways in North Arcot and South Coimbatore is also appended (appendix E).

CHAPTER V.

YIELD AND WORKING.

24. The total yield during the year as compared with that of the preceding year is shown in the following table :—

ABSTRACT M.—Comparative yield.

Heads	TIMBER IN CUBIC FEET INCLUDING SANDALWOOD.		FUEL IN CUBIC FEET.		BAMBOOS IN NUMBER		MINOR PRODUCE—GROSS VALUE IN RUPEES	
	1889–90	1890–91	1889–90	1890–91	1889–90	1890–91	1889–90	1890–91
By Government agency ..	182,315	(a)153,815	867,532	(b)900,366	23,759	42,478	30,100	54,362
By purchasers including confiscations .	1,663,868	1,484,128	7,039,783	5,854,223	5,470,344	6,066,459	* 281,108	* 342,815
Free grants	6,523	10,628	800	400	21,415	21,657	37	114
Total ..	1,852,706	1,648,571	7,908,115	6,754,989	5,515,518	6,130,594	311,245	397,291
Difference in 1890–91 as compared with 1889 90 ..	..	—204,135	. .	—1,153,126	.	+ 615,076		+ 86,046
Percentage of increase or decrease on the previous year's totals	..	— 11	..	— 15	..	+ 11	..	+ 28

* Including grazing fees

(a) Includes 106 cubic feet, being excess found on re-measurement of timber and sandalwood collected and taken to depôt in previous year

(b) Includes 18 cubic feet, being excess found on re-measurement of fuel collected and taken to depôt in previous year.

NOTE.—The value of minor produce given above is that of the quantity *disposed of*, not that of the quantity *collected*, as the value of the latter is not known.

The difference between the yield of the two years is explained under the several heads. The average approximate yield during the year per square mile of forest area under immediate control amounted to 845 cubic feet of timber and fuel, 617 bamboos and 40 rupees' worth of minor produce as against 1,000 cubic feet, 500 and Rs. 32, respectively, in the preceding year.

Section 1.—*Departmental operations.*

25. The number of trees felled during the year (Form No. 68) as compared with the preceding year's is as follows:—

ABSTRACT N.—Trees felled and converted.

Balance on 31st March 1890.	Felled in 1889-90.	Felled in 1890-91.	Converted in 1889-90.	Converted in 1890-91.	Balance on 31st March 1891.
302	7,068	5,106	7,117	5,129	279

The increase in the number of trees felled during 1889-90 was due to special causes as explained in that year's report. The removal of timber during the year in the Tiruvannámalai range in South Arcot by purchasers under contract system accounts for the large decrease in that district under departmental operations.

26. The produce collected and disposed of by the department is shown in the following table:—

ABSTRACT O.—Produce collected and disposed of.

Produce collected	During 1889-90			During 1890-91.			
	Quantity.	Cost.	Average	Stock on 1st April 1890.	Quantity.	Cost	Average.
		Rs.	Rs. A. P.			Rs	Rs. A. P.
Timber in cubic feet	179,613	38,538	0 3 5	189,485 †—3,243	(a) 152,433	40,486	0 4 3
Fuel in cubic feet	867,532	35,377	0 0 8	31,455 + 3,243	(b) 900,366	27,952	0 0 6
Bamboo in number	23,759	298	0 0 2	8,317	42,478	985	0 0 4
Sandalwood in cubic feet	2,702	2,208	0 13 0	1,992	(c) 1,382	1,082	0 12 6
Minor produce in maunds of 25 lbs.	20,372	19,424	0 15 3	10,194	(d 16,197	28,760	1 12 4
Total	..	95,845	..	..	..	99,265	..

Produce disposed of*	During 1889-90.			During 1890-91.			
	Quantity.	Sales.	Average.	* Quantity.	Sales.	Average.	Stock on 31st March 1891.
		Rs.	Rs. A. P.		Rs.	Rs. A. P.	
Timber in cubic feet	153,726	94,622	0 9 10	187,776	1,20,964	0 10 4	150,899
Fuel in cubic feet	893,889	78,864	0 1 5	830,682	67,441	0 1 4	104,382
Bamboos in number	25,318	1,968	0 1 3	41,627	3,069	0 1 2	9,168
Sandalwood in cubic feet	2,283	14,115	6 2 11	2,706	19,040	7 0 7	668
Minor produce* in maunds of 25 lbs.	12,625	30,100	2 6 2	22,857	54,362	2 6 1	3,534
Total	..	2,19,069	..	..	2,64,876	..	..

(a) Includes 9 found in excess in the depôt.
(b) Do. 18 do. do.
(c) Do. 97 do. do.
(d) Do. 31 do do.
* Includes that used departmentally, written off, &c.
† Timber (saplings) treated as firewood.

The decrease in the quantity of timber collected occurred principally in North Arcot and South Coimbatore. In the former no redwood was felled nor collected for want of demand and other causes, and in the latter the felling of timber was restricted owing to the comparatively large stock on hand.

The decrease in South Arcot is accounted for in paragraph 25 *supra*. In Madura timber felling operations, small as they are, have been much hampered by imports from Coimbatore and Pálghat on one side and from Travancore on the other, the last being on a considerable scale. The increase in the quantity of fuel collected occurred chiefly in South Arcot, Madura and Tinnevelly. In the first-named district it was due to large supplies of mangrove wood to the South Indian Railway and greater demand in Chidambaram town; in the second to the departmental cutting of firewood coupes under certain proposed preliminary working schemes; and in the third to large amount of coupe fellings and the larger demand by Cotton Mills' Companies.

The increase under bamboos is due to large number collected departmentally in Madura and South Malabar, and the decrease under sandalwood to non-collection of it in North and South Arcot, pending enumeration of growing stock ordered by the Conservator. The decrease in the quantity of minor produce collected is due in great measure to the sudden failure of demand for wild nutmeg in South Canara, which cut off a considerable item, but other more valuable species collected, though smaller in quantity, cost more for collection and brought in a larger revenue.

With reference to disposals during the year, there was a considerable increase under timber and sandalwood owing to the disposal of previous year's stock, but under firewood a large stock of engine fuel in Trichinopoly for the South Indian Railway was not removed and paid for owing to the inability of the Company to furnish specials.

Under "Minor produce" results exceeded expectation both in South Coimbatore and South Canara. In the former it was due to the zeal and energy displayed by the Range officer in developing departmental collections; and in the latter to prices for myrabolams having risen satisfactorily. The demand for wild mace was also steady and cinnamon flowers yielded a very fair crop. The collection and disposal of the crops was more prompt and satisfactory than in former years.

There were no indents during the year from the Department of Public Works either for timber or firewood; 88,752 cubic feet of fuel were supplied to South Indian Railway, *i.e.*, 9,291 from North Arcot, 46,017 from South Arcot and 33,444 from Trichinopoly; North Arcot supplied fuel amounting to 150,940 cubic feet to the Villupuram-Guntakal State Railway, 64,626 cubic feet to the Colar and Nandidrug gold mines and 28,399 cubic feet to the Central Jail, Vellore; Trichinopoly 2,174 cubic feet of fuel to the Government jail, and Salem 1,801 cubic feet of timber and 1,420 bamboos to the Reserve Remount Depôt in Hosúr.

The value of stock balance in *sale depôts* was Rs. 56,480, as against Rs. 44,908 at the commencement of the year showing an increase of Rs. 11,572.

Section 2.—Removals by purchasers.

27. The following table shows the removals by consumers and purchasers during the year as compared with the preceding year.

PRODUCE removed by permit holders on seigniorage or otherwise (Appendix 72-A).

Produce	During 1889-90			During 1890-91		
	Quantity	Amount of sales	Average	Quantity	Amount of sales	Average
		Rs	Rs A P.		Rs	Rs A P.
Timber in cubic feet	1,648,368	1,50,672	0 1 6	1,469,842	1,39,343	0 1 6
Firewood in cubic feet	7,030,486	1,85,737	0 0 5	5,844,203	1,86,988	0 0 6
Bamboos in number	5,459,249	79,740	0 0 3	6,044,381	93,010	0 0 3
Grass and grazing ..		64,158			69,123	..
Minor produce ..		2,16,708			2,73,245	..
Total ..		6,96,965		..	7,61,709	

The total revenue for the year under this head exceeded that for the preceding year by Rs. 64,000 or nearly 10 per cent. The principal increases accrued under *bamboos* and *minor produce*. Under *timber*, there was a decrease both in quantity and value, partly due to the gradual abolition of the permit system in some districts in favour of departmental cutting, and partly to the smaller number of trees sold from lands assigned on darkhasts, and to lower prices realized at auction sales of trees on poramboke lands and tank-beds.

Under *firewood* the decrease in quantity was chiefly in North Arcot and Madura. In the former, quantities were not available in all cases of removals by coupe contractors; in the latter, the demand for fuel was limited owing to there being large sources of private supply in the shape of Zemindari and Devastanam lands, all of which seem to have sprung into life again directly our seigniorage system was abolished in favour of departmental cutting of coupes These private owners always appear able to undersell Government. The District Forest-officer, Mr. Gass, remarks however that as most of these private supplies are now so far away from the chief centre of demand—Madura town—the future is by no means so full of uncertainty as the past has been. The revenue shows a slight improvement owing to somewhat better rates obtained.

The increase under *bamboos* is the natural result of a better system of working introduced in North Arcot, &c.

The increase under *grazing* is fully explained in chapter IV of the report. That under *minor produce* is largely due to the transfer of considerable items of tree rents from Land Revenue—Miscellaneous to "Forests" in the districts of Chingleput, Salem and Trichinopoly. In North Arcot the large revenue under this head is due to the better system of sale introduced by the Acting District Forest-officer, Mr. Marshall, and better prices realized in consequence. The question of crediting tree rents in Salem referred to in last year's report has been under consideration with the Collector and is now before the Board for orders.

The increase in North Coimbatore is due to the inclusion of a sum of Rs. 5,444 realized and credited in the accounts during 1890-91 from the sale of avaram and vembadam barks and pungam seed contracts for 1891–92.

Appendix F to this report shows the number of coupes together with the outturn of the same felled on the coppice with standard system during the year in Tinnevelly. It will be seen from it that the net profit per acre varies from Rs. 7 in Nángunéri to Rs. 30 in Tenkási. As the growth is in most places scrub jungle the District Forest-officer considers that Rs. 30 is a good price to attain.

Confiscated produce.

28. The confiscated produce sold during the year as compared with the year before shows the following results:—

ABSTRACT. P.—Confiscations.

Produce		During 1889–90.			During 1890–91.		
		Quantity	Amount	Average.	Quantity.	Amount	Average.
			Rs.	Rs. A P		Rs.	Rs A P.
Timber	C. ft. ..	15,500	1,572	0 1 7	14,286	2,949	0 3 4
Firewood	,, ..	9,297	636	0 1 1	10,020	650	0 1 0
Bamboos	No. ..	11,095	275	0 0 4	22,078	376	0 0 3
Minor produce.	Money value ..	.	192	..	..	447	..
	Total ..	..	2,675	..	..	4,422	..

Section 3.—Free Grants of Forest Produce.

29. The following exhibits the free grants made by Forest-officers and their value:—

ABSTRACT Q.—Free grants.

District.	Timber.	Firewood.	Bamboos.	Minor produce.	Money value.
	C. ft.	C. ft.	No	Rs.	Rs.
Chingleput	330	..	..	104	145
North Arcot	5,941	..	13,645	5	1,073
South Arcot	..	400	..	..	28
Salem	2,786	..	3,492	..	810
Trichinopoly	54	..	120	..	15
North Coimbatore	560	..	4,400	5	125
South Coimbatore	537	..	..	..	104
Madura	420	..	..	..	78
Total ..	10,628	400	21,657	114	2,378
Free grants of previous year ..	6,523	800	21,415	37	3,070

No account is kept of large quantities of produce taken free from unreserved lands or of free grazing.

CHAPTER VI.

Financial Results.

30. The revenue and expenditure of the Circle for the year as per Examiner's Form No. 64 compare with the actuals of the five previous years as follows :—

Items	For 1885-86	For 1886-87	For 1887-88	For 1888-89	For 1889-90	For 1890-91	Revised estimate for 1890-91	The year under report compared with the previous years	The year under report compared with the revised estimate
	Rs	Rs	Rs	Rs.	Rs	Rs	Rs	Rs	Rs
Revenue	6,52,818	6,94,535	8 10,197	8,98,086	9,51,017	10,49,861	9,70,000	+ 98,844	+ 79,861
Expenditure									
A Conservancy and works	2,31 006	3,80 192	3,45,742	4,08,269	3,85,586	4,20,728	4,20,000	+ 35,142	+ 728
B Establishments .	3,00,608	3 10,029	3,28,981	3,33,863	3,21,442	3,41,002	3,50,000	+ 19,560	— 8,998
Total expenditure	5,34,614	7,20,721	6,74 723	7 42,132	7,07,028	7,61,729	7,70,000	+ 54,701	— 8,271
Net results .	+1,17,704	— 26,186	+1,35,474	+1,55,954	+2,13,989	+2,88,132	+2,00,000	..	..

The revenue continues to increase and exceeds that for 1889–90 by nearly a lakh, the surplus being Rs. 44,143 more than that for the preceding year. The revenue was about 8 per cent more and the expenditure only one per cent. less than the original revised estimates as approved by the Board and Government.

The increase accrued principally under budget heads "II*a*, Timber" and "II*e*, Minor produce." Nearly one-half of the increase under "II*a*" was in North Arcot, where better prices were obtained for trees on dharkast lands, &c The revenue from this source in Trichinopoly was better than was anticipated. In Malabar, the actuals largely exceeded the estimates owing to the very brisk demand from Mysore for small deadwood in North Malabar, the more favorable outturn of teak poles and teak pieces from the sub-compartments felled in the Wallayar reserve and the disposal of dead trees in the Nellikutta reserved forest in South Malabar to a contractor. The increase under II*e* has already been explained in paragraph 27 *supra*. There was also an increase under "II*b*," due chiefly to higher amounts obtained for firewood in the coppice coupes in Tinnevelly.

Towards the cash surplus shown, North Arcot contributed 47 per cent., Salem 35 per cent, and North Coimbatore 20 per cent. The revenue in North Arcot exceeded two lakhs, Salem one and a half lakhs and North Coimbatore and South Coimbatore one lakh in each.

31. The working results of the year may be better understood from the following :—

	Rs.
Cash surplus of the year as shown above	2,88,132
Add expenditure on live-stock, stores, tools and plant, F. No. 73-B	25,662
Do. on settlement establishment, B charges	19,257
Do. on demarcation, VIII (*a*)	20,242
Do. on acquisition of lands, VIII (*b*)	5,782
Do. on surveys, VIII (*c*)	80,813
Do on law charges, IX (*b*)	1,885
Add increase in outstanding revenue (form No 66)	8,767
„ decrease do on account of advances (form No. 65)	2,580
„ increase in the value of depôt stock	11,562
Total in favour of the ordinary working account is ... as compared with Rs. 3,51,379 in the preceding year.	4,64,682

The financial results of the year are therefore highly satisfactory and will continue to improve under more direct departmental control and by efficient establishments.

CHAPTER VII.

General Remarks.

32. *Forest school.*—One Ranger (Mr. Bower) and one Forester (Mr. Blacker) were deputed to the Forest school during the year.

33. *Conduct of the establishment.*—One Ranger, who remained under suspension at the close of the preceding year, was, after a thorough investigation of the charges against him, reduced to the Foresters' class. He has since done well and will, it is hoped, retrieve his former position. One Ranger was reduced to a lower grade, two Rangers were degraded to Forester, and they subsequently resigned. Nine Foresters were dismissed and three reduced to lower grades. As usual, there were numerous reductions and dismissals among the men of the Forest Guards' class. Four cases of fraud and misappropriation of Government money, chiefly by permit-issuing officers, came to light. The men concerned were prosecuted and conviction secured. One Forester and one Range clerk were prosecuted for theft of Government timber and misappropriation of Government money respectively; conviction was secured in both cases.

34. *Health of the establishment.*—The subordinate staff, especially in malarious tracts, suffered more or less as usual; a few Rangers and several Foresters were absent on leave on medical certificate for periods varying from 1 to 5 months. One Ranger three Foresters, five Forest Guards, several watchers and many coolies died. Fever was prevalent as usual in most districts, notably in Tinnevelly, Coimbatore, South Canara and Malabar, in parts of which small-pox and cholera also prevailed.

35. *Service books.*— Satisfactory progress was made during the year in the verification of service registers and the book of a very few men (mostly inferior servants) remained unfinished at the close of the year.

36. *Wild elephants.*—In South Coimbatore, three wild elephants were captured in pits, two of which died subsequently, but not, it is believed, from injuries received in capture.

In North Malabar, a young tusker was captured in the Begur reserved forest and is reported to be doing well.

In South Malabar, two elephants, one a young cow and another a tusker, were captured in the new Amarampalam forest.

37. *Administration.*—The Collector of Malabar (Mr. Dunnerque), in forwarding the annual report of South Malabar, writes: "In conclusion, I would record my opinion that administration of the South Malabar forest district reflects great credit on the Forest-officer Mr. Hadfield."

No other Collector makes any general comment with regard to the administration, which, in the Conservator's opinion, has been good on the whole and creditable to District Forest-officers. There have been several changes in district offices during the year and the want of experienced officers of the controlling staff continues to be much felt. Mr. Marshall relieved Mr. Carroll as acting District Forest-officer, North Arcot, the latter officer going to Tanjore and subsequently to Salem on Mr. Cherry's appointment as Acting Conservator, second grade.

Mr. Morgan was transferred from North Coimbatore to Nilgiris and Mr. Sheffield took his place in North Coimbatore as a temporary measure.

APPENDIX A.

STATEMENT showing financial results, yield and number and value of trees reserved in different sub-compartments in South Malabar Division.

Sub-compartment.	Extent.	YIELD PER ACRE PER ANNUM.						
		Teak poles.	Teak pieces	Jungle wood posts.	Pula wood.	Bamboos.	Bamboo thorns.	Billet fuel.
1	2	3	4	5	6	7	8	9
							TONS.	TONS.
I 3 (*e*)	* 25·52	·03	5·27	·07	..	18·20	04	·94
I 4 (*e*)	28·65	1·82	..	·08	..	17·85	..	·78
I 4 (*f*)	29·46	..	4·78	..	..	22·10	·04	·73
II 9 (*c*)	26·34	·18	9·80	..	·01	12·50	..	1·48
II 9 (*d*)	26·34	·25	14 98	..	..	7 69	..	1·14
II 9 (*e*)	26·66	·15	7·38	..	..	13·46	.	1·31
II 9 (*f*)	27·71	·32	11·10	·07	..	11·29	..	1·30
II 9 (*g*)	27·55	·18	11·55	10	..	24·07	..	1·28
II 9 (*h*)	24·23	·38	14·74	..	..	8 33	..	1·03
II 9 (*i*)	25·53	·10	11·69	..	..	10·40	..	·88
II 9 (*j*)	22 38	..	·90	..	.	15·90	..	·46
Total .	290·37	3·41	92·19	·32	·01	161·79	·08	11·33

Sub-compartment	YIELD PER ACRE PER ANNUM—*cont.*			Net profit per acre per annum.	Number of trees reserved.	Value of trees reserved.	Receipts during the year.
	Faggot fuel.	Twig fuel.	Total fuel.				
	10	11	12	13	14	15	16
	TONS	TONS.	TONS.	RS. A. P.		RS. A. P.	RS. A. P.
I 3 (*e*)	·34	·09	1·37	2 5 4	91	38 15 0	583 0 2
I 4 (*e*)	48	·04	1·30	1 11 11	164	67 5 0	488 6 9
I 4 (*f*)	33	·03	1·09	1 14 1	178	75 14 0	546 0 1
II 9 (*c*)	·79	..	2·27	3 8 6	307	134 7 0	918 12 0
II 9 (*d*)	78	..	1 92	3 5 11	319	131 1 0	876 4 9
II 9 (*e*)	·60	..	1·91	2 14 2	240	98 2 0	750 0 0
II 9 (*f*)	·55	·01	1·86	3 5 9	310	126 9 0	907 9 0
II 9 (*g*)	·43	·01	1·72	3 5 8	420	162 3 0	905 1 3
II 9 (*h*)	·57	..	1·60	3 10 3	240	104 11 0	874 14 6
II 9 (*i*)	·30	..	1·18	2 9 0	260	102 13 0	641 9 2
II 9 (*j*)	·08	..	·54	0 12 2	64	22 15 0	167 13 0
Total ..	5·25	·18	16·76	29 6 9	2,593	1,064 15 0	7,659 6 8

* 25·20 acres only worked.

APPENDIX B.

STATEMENT showing the result of thinnings in the Nilambúr plantation

Name and number of block.	Number of compartment.	Area in acres.	Age at commencement of 5 years, period from 1890-91.	Number of trees actually standing at end of 1889-90.		Approximate number proposed to be thinned during the next 5 years as per P. W. S.	Number of trees actually thinned.	Number of trees that will actually remain at close of 5 years' period.		Number of trees that ought to stand at the end of 5 years' period, *i.e.*, 1895, as per P. W. S.		Remarks
				Per acre.	Per compartment.			Per acre.	Per compartment.	Per acre.	Per compartment.	
1	2	3	4	5	6	7	8	9	10	11	12	13
I. Iravillikava	2	27·35	46	54	1,486	..	.	54	1,486	80	2,188	
II. Edakad	8	147·19	39	91	13,387	..	..	91	13,387	100	14,719	
	10	39·56	30	159	6,295	1,548	1,546	120	4,749	120	4,747	
V. Arivikad	2	84·34	42	93	7,868	278	281	90	7,587	90	7,590	
VI. Mulathmanna	1	34·63	43	84	2,908	..	..	84	2,908	90	3,116	
VII. Panangod	3	79·26	34	114	9,016	298	305	110	8,711	110	8,718	
IX. Walluwacheri	5 (*a*)	33·94	22	248	28,072	..	..	248	28,072	250	19,770	These two plantations were thinned on account of advanced growth.
	5 (*b*)	79·08	22									
X. Nellikutta	1	74·23	20	452	19,990	..	3,900	217	16,090	400	29,692	
	2	46·00	19	510	9,700	..	1,564	177	8,136	400	18,400	
XI. Chathamborai	1 (*b*)	107·56	18	246	26,472	8,067	7,755	174	18,717	400	43,024	

APPENDIX C.

DETAILS of experiments with exotics during and up to the close of the official year 1890-91.

Carob (*Ceratonia siliqua*)—has done well in North Coimbatore (Bylur).

Dates.—The palms raised from seeds, specially imported from Busrah in 1886 are doing well in North Arcot, where there are 37 plants from 2 to 2½ feet in height and 22 plants about one foot high. The latter have never been transplanted and were allowed to grow *in situ*. The offsets from Busrah planted in 1886 continue to do well. Three died during the year. Forty-four are at Tiruvallam and average 13 feet in height, whilst 43 at Kilminnel average only 5 feet. In the former, the plants were more frequently watered, and the soil too, is rather better. From the plants at Tiruvallam, 6 offsets have been taken, 3 of which have done well and 3 are sickly; from those at Kilminnel 120 offsets were taken during the year, but only 15 have survived the drought.

The number and condition of plants in South Arcot are reported as follows:—

Name of taluk or range.	Locality.	Casualties during 1890-91.	Number of plants existing on 31st March 1891.	Height. From Feet.	Height. To Feet.	Remarks regarding condition, &c.
Tiruvannámalai ..	Anaimalai reserved forest.	..	3	3	6	Not good owing to rocky soil.
	Do. do. ..	..	7	..	..	
Tindivanam ..	Siruvadi plantation.	..	17	¼	1½	Girth from 1 to 2½ inches; not improving in growth, though properly attended to.
Villupuram ..	Nabob's tope ..	9	31	..	..	Thriving well.
Cuddalore ..	Ramapuram ..	..	28	..	..	Not improving. The casualties are attributed to the soil being unsuitable and the failure of monsoon.
	Terkumelur ..	..	10	..	..	
	Rambaukam ..	5	2	..	..	
Tirukoilúr	Block No. 70 ..	33	17	½	6	Not very promising. Casualties resulted from want of rain.
Kallakurchi ..	Kasba nursery tope.	5	7	.	..	Not doing well, the soil being bad.
Vriddachalum ..	Blocks Nos. 125 and 127 and Head Assistant Collector's office compound.	14	46	..	..	Newly planted.

In Trichinopoly 19 plants survive on the Pachamalais, 3 having died during the year. Seventy seedlings raised in Pachamalais, and 70 others reared in the Range office compound in the plains, were planted on the hills during the year. The former were sickly plants and all perished.

In Tanjore, of the 175 plants which survived the planting of 1881 at Vettangudi, one died during the year and the rest are flourishing. Of the offsets planted in October 1889 in the south date garden, 114 survive and are mostly thriving. None of the trees flowered. The casualties during the year were 46. 36 palms in Edangankotai reserved land are promising, and are 6 to 13 inches in height. Forty plants and 62 offsets in the *Meltottam West Block* (Vedarniem) are not doing well. The District Forest-officer (Mr. Hayne) writes: "I consider the date palm planting an expensive experiment and, not commensurate in degree with the good to be derived, and should be discontinued." The Collector (Mr. Thomson) remarks thereon: "It is expensive; so far it does not appear to be at all profitable and should not be extended. But what has been planted, and reared so far should continue to be attended to till results good or bad are certain."

In North Coimbatore Arabian date seeds were sown during the year in the Bylur sandal-wood plantation in the Satyamangalam taluk, as the date is found to thrive best in that locality.

In Madura, 10 Egyptian seeds were sown in No. 1 range. They were at once attacked by large black ants and only 4 recovered, and of these only 2 germinated and are now in pits. In No. 2 range, 25 seeds were sown in the Periyakulam office garden and 25 in the Balasurem forester's house garden; of the former 22 germinated, but only 12 survive, which are now from 5 to 9 inches high; of the latter, 15 germinated and only 4 survive, which are now in pits.

In North Malabar of the 3 (Busrah) plants alive last year, 1 died, and the other two show no growth. All the bazaar date plants sent to Chedlet to be planted died, and all the Persian dates also perished. The District Forest-officer writes: "The date will not grow in the Wynaad, and it is useless prosecuting further experiments with it." The case appears to be different in South Malabar where there are 175 date palm plants in Wallnasherri block III, 153 in Punangode blocks I and II, and 38 in Pokode block IV, besides 29 plants of the Egyptian dates (raised from 50 seeds received in March 1890), all of which are doing well.

In South Canara, of the bazaar seed plants transplanted, 3 died during the year and of the 30 plants left in seed-bed at the end of the preceding year, 6 died. Of the Persian dates, 1 died, leaving 22. Of the Egyptian dates, 1 died, leaving 8.

In Chingleput, 60 seedlings (offsets from Busrah) are thriving; 5 died during the year. The Egyptian date seedlings have all withered away. The District Forest-officer remarks that the soil and climate are unsuitable. Of the plants raised from seeds of bazaar date fruits obtained from the West Coast (Calicut), 86 seedlings are in good condition. From the local bazaar dates, 31 seedlings were raised in the nursery, 24 of which were transplanted and are thriving.

Persian Gulf date palm seeds (some with pulp and some without) were obtained in December 1890 from the Director, Botanical Department, Northern India, Saharanpur, and forwarded to North Arcot, South Arcot, Salem and North Coimbatore for experiment. In the first-named district, 420 seeds *with pulp* were sown on 26th January 1891; 382 had germinated by 3rd March 1891. The seedlings look healthy. Out of 1,000 seeds *without pulp* sown simultaneously, only 560 germinated after about 30 days; of these 100 seedlings died; 45 look sickly; even the rest do not look healthy.

The best kind of Egyptian date palm seeds were also obtained from the Director of Botanical Department, Northern India, in March 1891 and supplied to several District Forest-officers in the circle for experiment. The result will be reported next year.

Divi Divi—does particularly well in North Arcot under the lofty shade of the rain tree, but, in the open, looks yellow and stunted. About 2,000 pods were collected during the year and sown in a nursery. 1,350 plants have come up excellently.

Eucalyptus.—In North Arcot all the plants of *E. citriodora* and *resinifera* perished during the hot season of 1890.

The total number of eucalypti plants in the nursery was 1,721 at the beginning of the year. 1,341 were put out into pits 4 feet deep during June—August 1890 in an enclosed area near Palmanér, but only 954 were found alive at the close of the year; of these 180 looked very sickly. *E. resinifera* and *citriodora* are probably doing best.

In Tinnevelly, *E. rostrata* and *resinifera* are doing well at an elevation of 2,500 feet, some having reached a height of 30 or 40 feet. These species were also planted at an elevation of 1,500 feet, but are not doing so well.

A supply of seed was sent to Quetta through the Conservator.

The number of the different species existing, their growth, &c., are as follows:—

Species.	Where existing.	Number.	Height.	Girth.	Remarks.
			FEET.	FEET.	
E. Rostrata	Kariar	12	8 to 40	¾ to 2½	Barometrical height 750 feet
Do.	Kannikatti	6	30	2½ (average)	Do. 2,500 ,,
E. Robusta	Do.	26	20	1 (,,)	Do. 2,500 ,,
Do.	Ollar	7	20	1 (,,)	Nearly 2,000 feet high.

In North Malabar, the 5 largest trees of *Eucalpytus Marginata* called Saligna continue to grow satisfactorily. The dimensions of 4 of them are—

	As now reported.		As per report for 1889-90.		As per report for 1888-89.	
	Height.	Girth.	Height.	Girth.	Height.	Girth.
	FEET.	FEET.	FEET.	FEET.	FEET.	FEET.
No. 1	65	4	60	3½	50	2½
,, 2	56	3½	52	2½	42	2½
,, 3	42	3	37	2½	35	2 1/16
,, 4	39	2½	35	2½	32	2

The 20 trees of *E. rostrata* whose average height was given last year as 45 feet and girth as 2½ feet at 4 feet from the ground continue to flourish and average 50 feet in height and 3 feet in girth.

One fine tree of a third species (not identified by the Acting District Forest-officer) which was reported to be 45 feet high with a girth of 2 feet at 4 feet from the ground has now attained a height of 50 feet with a girth of 2½ feet. There are no plants of Queensland eucalyptus alive now in the experimental garden. In South Canara the *Corymbosa* gradually died away, the last in December, *i.e.*, at about 2 years of age; the 12 *Robusta* have continued to thrive and also the one *Citriodora*.

Giant Bamboos, &c.—In Chingleput seeds of Burmah bamboos (*D. Longispathus*) obtained from the Conservator of Forests, Pegu Circle, Burmah, were sown in nursery beds in the Meyur Topo, in the Tandarai Reserve and in the Homes' Gardens, Saidápet. In the first-named locality the seeds germinated in 8 days. The seedlings are from 2 to 3½ feet high and look healthy. In the second (Tandarai) most of the seeds germinated and the seedlings are 6 inches in height. In the third (Homes' Gardens) they have failed entirely. In Tinnevelly, the experiments with seeds of Giant Bamboo (*Bambusa Gigantea*) at Mundathorai is a failure. The seeds were carried away in a wholesale manner by ants.

In North Malabar *Dendrocalamus Brandissi* thrive well. The largest culm in the experimental garden is 90 feet in height and the thickest stems measure 13 inches in girth. The growth of about 300 other clumps is very satisfactory. Out of 700 clumps planted in Koogoor Hadi in 1888 about 600 are doing fairly well. In Kanot all the 34 cuttings made from the existing 5 clumps and planted in Takals (clearings) are doing well. The plants which were in the nursery last year have also been planted out in Takals; their average height is 10 feet with a circumference of 2 inches at the base.

The 4,593 plants of *Dendrocalamus longispathus* put out in the Takals last year (30 feet apart) are thriving well and possess vigorous shoots. They vary in height from 7 to 12 feet and in girth from 2 to 2½ inches. The 63 clumps of this kind of bamboo in the experimental garden continue to thrive. Most of those transplanted into Begur nursery in 1889 and removed and planted out in Takals have been destroyed by stray cattle; the rest are doing well.

The seeds obtained from Pegu in July 1890 were sown in Kanot and in the experimental garden, Manantoddy. The germination was very good in the former and fairly good in the latter. In Kanot, 14,000 seedlings were replanted 1 foot apart in beds in the nurseries. They are 9 to 12 inches high and fit for transplanting shortly A larger number remained in the beds where seeds were sown and their transfer to other beds could not be effected in the absence of rain.

All the 13 clumps of *Cephalostachyum pergracile* existing in the experimental garden are growing satisfactorily They average 20 feet in height with a girth of 10 inches to individual culms as against 18 feet and 9 inches, respectively, reported last year.

About 1,000 plants of this species were removed from the nursery at Kanot and planted out during the year in Takals; they average 7 feet in height with a girth of 1½ inches to individual culms; those transplanted in 1889 into the nursery at Begur are growing satisfactorily.

About 500 plants of *Beesha Travancoreca* bamboos were put out in the Takals in Kanot; there are now 914 plants in all 10 to 15 feet in height and 3 to 4 inches in circumference and growing well. The 100 plants reported to be alive last year in the experimental garden continue to throw out vigorous shoots.

There are now 8 clumps of Golden Burmah bamboos in the experimental garden. The tallest shoots of the year average 30 feet in height with a girth of 10 inches. The one clump planted in 1886 in the nursery at Kanot is now 35 feet in height with a girth (of culm) of 8½ inches at the base as against 30 feet and 8 inches, respectively, last year. About 100 cuttings were made during the year and planted out in Takals. The 26 cuttings planted last year are thriving well.

The experiment of planting up of Takals (clearings) with Giant Bamboos may now be regarded a success both in Kanot and in Wynaad.

In South Malabar *Arundinacea Brandissi* and *Dendrocalamus longispathus* planted along river banks grows luxuriantly A few were destroyed by the Government elephants.

Bambusa longispathus and *Cephalostachyum* planted in Pokode blocks IV and V are also growing very well.

The pretty old clump of yellow bamboos has had several additional culms and increased in size. The 4 cuttings are also doing well.

In South Canara the 41 clumps of *Bambusa longispathus* in Tannir Bhavi have not progressed much. The pure sand is not very suitable and they suffer from the proximity of the casuarina. Of the 9 plants in Sabladi, 8 were put out along a river bank. This was done in September instead of the beginning of June, and consequently the plants suffered. The one clump left has culms 2 inches in diameter and 7 feet high. Its general appearance is not satisfactory. The plants put out in the Uppinangadi range, which promised so well just afterwards at the close of the monsoon, have not done so well this last monsoon; hardly any produced good culms and some died. Out of 1,145 originally put out, there are now 1,020 and in a promising condition; they have to be watered; those similarly put out near Parapa have fared much the same, 30 have died, leaving now 150.

Ipecacuanha.—The report regarding the two plants in Kanot, *North Malabar*, is very unsatisfactory.

In *South Malabar*, of the 19 old plants which are under shade of teak, 6 broke close to the ground by the accidental falling of a branch; but they are expected to throw out fresh shoots from the roots. Of the 500 plants put down in 1888 by Mr. Lawson, 466 are doing well and the rest perished, but they should shoot up again at the break of the monsoon.

Kigelia pinnata.—In *North Arcot*, there are 10 in the Gudiyátam Forest-house compound and 10 in Palmanér, all doing well; one of the latter has flowered and been hand-fertilized by the District Forest-officer, two more are showing signs of flowering, 34 more have been planted around the new rest-house at Virinjipuram; those at Kilminnel (38) continue to grow well and rapidly and 4 will flower shortly. The 6 at Trivallam also continue to flourish. In *South Canara*, *Kigelia pinnata* grew well. Some that were cut back gave very good shoots.

Lancewood (*Oxandra Virgata*).—There are now 5 plants living in North Malabar (Wynaad). They grow but very poorly.

Mahogany (*Swietenia Mahogani*).—In *Chingleput*, there were 90 seedlings at the beginning of the year, of which 14 died and the rest are in good condition. Of the 180 seedlings raised in March 1890, 77 died and 103 are promising. The mahogany trees in the Chingleput tope had grown very bushy; all these were pruned; the wounds are healing up; the trees look healthy. Those in Meyur have thrown out 3 feet of vertical growth during the last 10 months, and are from 4 to 14 feet in height.

In *North Arcot*, of the 17 plants in Kilminnel, 1 died, leaving 16. The height ranges from 5 to 10 feet. There are also 10 left at Virinjipuram with an average height of 4 feet, out of 35 planted in 1888. They have not received good treatment.

In *South Arcot*, the number, height and the condition of the plants are reported as follows:—

Locality	Number of plants existing on 31st March 1891.	Measurement.		Remarks
		Height	Girth	
Annamalai reserved forest	8	7′ to 10′	4″ to 7″	7 in good condition and 1 poor
Tenmalai Melput	18	1″ to 9″	1″ to 6″	12 are fair, rest poor
,, nursery	1	..	..	Very small.
Tindivanam range, Siruvadi plantation.	27	1′ to 35½′	½″ to 9″	Not improving in growth, though properly attended to.
Villupuram range, Nabob's topo ..	17	..	..	Thriving well.
Cuddalore range, Ramapuram .	27	2′ to 18′	3″ to 16″	Healthy and promising
Do. Therkumelai ..	65	6′ to 8′	½′ to 2′	Healthy and promising, 5 died during the year, the roots having been attacked by white ants and other insects.
Tirukoilúr range, Block No 71 ..	36	6′ to 27′	¾′ to 2¼′	Not very promising

In Tanjore, out of the 20 plants which were alive in the Vettangudi forest, 6 died during the year and the surviving 14 are not promising. Of the 23 plants in the nursery, 3 died, leaving 20. In the South Date garden, only 4 miserable specimens now survive, their height varying from 5¾ to 21 feet and girth 6 to 22 inches. The Collector (Mr. Thomson) remarks: "It did not occur to me that Vettangudi was a place where mahogany should ever have been put down."

In Madura, the mahogany trees now standing in the garden at the Periyakulam office have grown uncommonly well. They are three years old, and are now 8 to 10 feet high (average). Some plants put down simultaneously in the Public Works-shed compound at Periyakulam are 10 to 15 feet high; 65 seeds were sent to No. IV Range officer, and 52 germinated; 100 seeds were sent to No. I Range officer, but of those which germinated, only 20 are now alive. Some plants which were put out some five years ago, near the teak plantation have not thriven at all.

In Tinnevelly, the plants in the Kongarayakurichi and Kaliyavur reserves, continue to do well.

In North Malabar, the 100 plants in Kanot vary from 10 to 26 feet in height, and 2 to 9½ inches in girth. The largest is 26 feet high, with a girth of 9½ inches. Nearly all the plants in the Experimental garden at Manantoddy are now dead from the attacks of a borer. The few remaining ones are sickly.

In South Malabar (Nilambúr), the one exceptional tree in Chattambarai, planted in 1873, which is now believed to be the variety known as *S. Macrophyllum*, made better advance in size during the year, the rate of growth being as follows :—

	Height in feet.	Girth at base in inches	Girth at 5 feet from the ground in inches
When 10 years old or in 1883 84	65	42	30
,, 11 ,, ,, or in 1884-85	67	47	34½
,, 12 ,, ,, or in 1885-86 . ..	69	52	41
,, 13 ,, ,, or in 1886-87 ..	70	56	44
,, 14 ,, ,, or in 1887 88 . ..	71	60	46
,, 15 ,, ,, or in 1888 89 ..	74	64	50
,, 16 ,, ,, or in 1889 90	75	68	52
,, 17 ,, ,, or in 1880 91 ..	79	73	56

The other plants in Irvillikava, Ramalur, and Panangod which are of the species of *S. Mahogani* must be regarded a failure; they suffered from the attack of the borer as usual. Eight hundred and forty-three *S. Macrophyllum* plants were planted as standards in the new teak plantation, Pockote block V. The growth is as good as the teak, and the plants are robust; 2,900 seeds of this species were put in bamboo pots; 2,500 have germinated: the seedlings are looking vigorous and healthy, and are intended for standards with teak in blocks V and VI.

Manilla hemp (*Musa textilis*).—The plants in *Tinnevelly* are in a healthy condition. Some of them flowered and fruited during the year. They are being successfully propogated by means of offsets. The growth of the plants in *North Malabar* (*Wynaad*) is all that can be desired.

Olea Europæa —Of the 4 plants reported to be alive last year in *North Malabar*, 2 have died from the attacks of a caterpillar.

Peltophorum ferrugineum —The 24 plants in Tanjore are in good condition. The height varies from 12¾ to 28½ feet and the girth from 1 to 3 feet. Nine flowered during the year.

Pithocolobium saman.—In *North Arcot*, the planting of this tree was overdone, and has been stopped in all the casuarina plantations. Cattle eat the pods greedily and the shade is most grateful. The tree wants watering during the first, and perhaps also the second year of its existence In *South Arcot* the trees in Tenmalai Melput are mostly thriving. Those in Tindivanam, which are from 3 to 18 feet in height and 18 to 20 inches in girth, are not improving in growth. Those in Tirukoilúr are not also very promising. In North Malabar, there are 143 trees and the largest is now 45 feet high with a girth of 4 feet at 4 feet from the ground, as against 40 and 3½ feet, respectively, reported last year.

Rubber trees.—In *North Malabar*, the two trees of *Hevea Brasiliensis* in the Experimental garden at Manantoddy continue to grow fairly well. Three germinated last year in Kanot and are growing fairly well. Their average height is 5 feet and girth ¼ an inch. The Ceara rubber trees in the Experimental garden grow like weeds. The largest tree is 42 feet high with a girth of 4 feet at 4 feet from the ground, as against 38 feet and 3 feet and 1 inch, respectively, last year. The District Forest-officer is unable to say anything at present regarding the yield of rubber, as the trees do not yet bleed freely. The 200 plants of *Ficus elastica* put out in July 1887 in the Kanot forest are doing well, averaging in height 7 feet and in girth 3¼ inches at the base. There are 6 plants in the Mukki cardamom forests whose average height is only 4 feet and girth 4 inches at the base, the soil appears to be unsuitable, being clayey. The plants put out near the ranger's house in the Chedlet forest in 1886 range from 11 to 16 feet in height with a girth of 6 to 14 inches; those planted in the Kurchyat forest in 1887 are also doing well: 190 plants put down in June 1886 in the Experimental garden at Manantoddy now average 6¼ feet in height and 5 inches in girth at the base, as against 5 feet and 4 inches, respectively, last year The largest tree in the garden (near the edge of the swamp) is 25 feet high with a girth of 18 inches at the base as against 22 feet and 16 inches, respectively, last year. The soil on the hill is stiff clay, and does not appear to suit. In *South Malabar* (Nilambúr), the *Castilloa*, *Hevea Brasiliensis*, and *Ceara* continue to thrive; 600 Hevea seeds were sent to four other divisions in the Circle for experiment; 8 of the largest *Ceara* trees were tapped in 1886-87, but the yield of rubber was only one pound. There has been no tapping since; 36 *Landulphia Florida* are doing well. In *South Canara* some *Ceara* trees in the station thrive, but no rubber has been obtained from them Some Hevea seed from Nilambúr was tried, but failed to germinate.

Sappan wood (*Cæsalpinia sappan*).—In *North Malabar* (Wynaad), of the 2,000 plants reported to be alive in Kanot, those planted in 1886, are now from 2 to 5 feet in height with a girth of ½ to 1½ inches. There are a good many plants now doing well, out of those which germinated last year, from the 50 seers of seed sown broad-cast.

Sericulture —Experiments were continued at Homes Garden, Saidápet, near Madras, and at Meyur in Chingleput. In the former, an enclosure was put up; the sides were covered with half inch netting, painted with tar and linseed oil to make it water-proof. The top netting could not

be painted for want of sufficient funds. The top was completely covered with unpainted linen netting; but in course of time, the netting was torn to pieces through the influence of sun, wind, and rain. The 50 rows of casuarina seedlings planted, were properly conserved. A breeding shed was put up, the sides of which were closed with galvanized wire and the top covered with bamboo mats; within this, an enclosure, about 9 feet long, 6 feet broad and 9 feet high, was formed (for the keeping of the cocoons and the breeding of the worms from moths) with a margin of 3 feet all around for inspection, and it was covered with thread netting of ¼ inch meshes.

The experiment was tried at Saidápet and Meyur with 4,602 seed cocoons collected locally and from other districts

The moths as they pierced had to rest either on the rows of cocoons, or on the netting, where a few of them paired.

To distinguish the covered female moths from the uncovered ones, the tip of one of the wings was cut off with a pair of scissors and, when separated from the male, (which is generally after 12 hours) they were caught and shut up in a small tin case, and kept on a table within the enclosure where they laid eggs, and thus, only fertilized eggs were collected The date of commencement of laying was noted on the tin The moths laid eggs for three days, and on the 4th day, the eggs were transferred to a smaller tin with the date marked on it, to ascertain the date of hatching, which was generally ten days after the transfer to the smaller tin. Four days after, the worms were removed outside the breeding shed, and let loose on the casuarina rows. To protect the worms from injury by ants, &c., a rag dipped in lamp oil was wrapped round each plant, about 6 inches from the ground; wood ashes were also spread at the roots.

In the beginning of July 1890, 1,901 worms were left on the casuarina hedges; of these, 475 spun their cocoons In September, 343 cocoons were pierced, of which only 106 paired. From these, 12,311 fertilized eggs were collected and removed to Meyur. As the Honorable Mr. Garstin, C S., had directed that no more should be left on the hedges, the remaining 13,360 eggs and 2,340 worms were also removed to Meyur. About ¼ of an acre of casuarina plantation here was cleared, and the worms were left on trees of two years' growth. Twenty worms were left on each tree, and this number was subsequently reduced to 10 on receipt of worms and eggs from Saidápet, lest the sapplings should suffer from overstripping. A spacious shed was put up and 18 new nursery stands were prepared, and each day's worms were kept on separate stands, in order to ascertain the age of the worms at once.

Of the 25,671 eggs and 2,340 worms sent to Meyur, 1,861 spun their cocoons, which were removed to Saidápet. The experiment at Meyur was a thorough failure, as the worms all disappeared (most of them 3 weeks' old) mainly through the carelessness of the watchmen.

After several experiments, it was found, that about 8 days after hatching, is the safest age at which young worms might be removed from the nursery to the trees outside.

The Cocoons spun at Saidápet and Meyur seem quite unsuitable for breeding purposes.

The total expenditure during the year amounted to Rs. 1,505.

The experiment has not been financially successful so far.

APPENDIX D.

A DETAILED list of completed Forest buildings in the circle with their approximate cost, &c., as far as they have been reported by District Forest Officers.

Note.—The list is by no means complete. It is only a beginning, and next year more thoroughness may be expected.

District.	Name of range.	Name of building.	Situation.	Cost.	Description of building and accommodation available.	How used.	Remarks.
				Rs.			
Chingleput.	Tiruvallúr	Rest-house	Kambakkam		Roof thatched, 20′ square, with no out-house.	Used by Forest-officers on circuit.	
	Do.	Do.	Varadayapoliem	..	Roof tiled, do. do.	Do. do.	
	Do.	Range office ..	Satiavedu	..	Not given do. do	Used as Range office.	
	Do.	Do.	Nagalapuram	..	Do. do. do	Do.	
North Arcot.	Chittoor	Rest-house	Paradarami	..	....	....	
	Chandragiri	Do.	Panapak	..	....	....	
	Do.	Range office ..	Chandragiri	..	....	....	
	Do.	Rest-house	Mamandur	..	....	....	
	Do.	Do.	Chamala	..	....	....	
	Palmanér	Do.	Palmanér	..	....	....	
	Do.	Do	Peddur	..	....	....	
	Do.	Do.	Pednaigdrug	..	....	....	
	Do	Do.	Nellipatla	..	....	....	
	Gudiyatam	Bungalow .. .	Gudiyatam	..	....	....	
	Do.	Rest-house	Synagunta	..	....	....	
	Do.	Do.	Ambur	..	....	....	
	Pólúr	Do. .. .	Amerdi	..	....	....	
	Do.	Do.	Naickaneri	..	....	....	
	Do.	Do.	Karnatieghur ..	..	....	....	
	Do.	Do.	Mandaparai	..	....	....	
	Javadis	Do.	Patrakad	..	....	....	
	Wálajápet	Do.	Arkónam	..	....	....	
	Do.	Do.	Banavaram	..	....	....	
	Do.	Do.	Kilmainnel	..	....	....	
	Gudiyatam	Do.	Virinjipuram ..	..	....	....	
	Do.	Do.	Tiruvallam	..	....	....	
	Tiruvannámalai ..	Do.	Chengam	300	1,441½ square feet in extent	Used as depôt and also by Inspecting officers.	
	Do. ..	Do.	Melpat (Tenmalai Hills)	750	1,189¾ do. do.	Used by inspecting officers ..	Is being repaired.
	Do. ..	Do.	Kavuthi	*820	722½ do. do.	Do. do.	
South Arcot.	Tindivanam	Do	Shanikulam	100	976¼ do do.	Do do.	Is being repaired.
	Tiruvannámalai ..	Range office ..	Tiruvannámalai ..	..	....	....	Permanently occupied, and is therefore not available for occupation by officers of other departments and private individuals.
	Do. ..	Tannah	Do.	..	....	....	Do. do.
	Tindivanam	Range office	Shanikulam	..	....	....	Do. do.
	Do.	Do.	Kallakurchi	..	....	....	Do. do.

* Excludes a sum of Rs. 306 spent on repairs.

A detailed list of completed Forest buildings in the circle with their approximate cost, &c.—*cont.*

District.	Name of range.	Name of building.	Situation.	Cost.	Description of buildings and accommodation available.	How used.	Remarks.
				Rs.			
South Arcot—*cont.*	Villupuram	Range office (old Court-house).	Villupuram	..	.....	....	Permanently occupied, and is therefore not available for occupation by officers of other departments and private individuals.
	Tindivanam	Dépôt	Tindivanam . .	..	.....	....	Not fit to be used as a rest-house.
	Do.	Tannah .. .	Kolamanyanur ..	..	.....	....	In complete ruins.
	Tindivanam	Police bungalow ..	Tindivanam	..	.....	....	In need of great repairs and not habitable, permanently handed over to the Forest by the Police Department.
Salem ..	Salem	Forest bungalow Rest-house.	Mallápuram	..	.....	....	
		Do. do. .	Muttugampatti ..	..	.....	....	
Trichinopoly.	Kulitalai	Rest-house	Elamanur	..	.....	....	
	Do.	Do.	Lálápet	..	.....	....	
	Do.	Do.	Kulitalai	.	.....	....	
	Do.	Do.	Kálpatti	.	.....	....	
Tanjore.	Musiri..	Do. on the Pachamalais.	Sengattupatti.. ..	..	.....	....	
	Northern Range ..	Residence and range office.	Tirumalavasal ..	..	Thatched building	One half as ranger's quarters and the other half as his office.	
	Satyamangalam ..	Ranger's quarters and store room.	Satyamangalam ..	..	Walls are of mud and with tiled roof	...	Transferred from Local Fund Department.
	Do. ..	Inspecting officer's residence.	Talamalai . ..	250	30 feet long and 12′ broad, with mud walls and tiled roof.	Used by Inspecting officers	....
	Do. ..	Do. ..	Ekkatur	250	32′ by 15′ with walls built of mud and tiled roof.	Do.	
	Do. ..	Residence of Forester.	Talavady	250	16 long by 8′ broad, with mud walls and tiled roof.	Used as Forester's residence.	
	Do. ..	Inspecting Officer's residence.	Hassanúre	350	40′ long by 12½′ broad	Used by Inspecting officers.	Transferred from Local Fund Department.
	Do. ..	Do. ..	Markampolliem ..	670	44′ long by 16′ broad, with mud walls and tiled roof.	Do.	
North Coimbatore.	Do. ..	Do. ..	Karalia	670	Do. do. do.	Do.	
	Do. ..	Do. ..	Geddasal	..	.....	....	Transferred from Local Fund Department.
	Do. ..	Do. .	Gairmallam	800	44′ long by 16′ broad, with mud walls and tiled roof.	Used as Inspecting officer's residence	
	Kollegál	Residence and Range office	Kollegál	..	.....	....	
	Do.	Inspecting officer's residence.	Kowdally	250	33⅓′ long by 16½′ broad, with mud walls and tiled roof.	As residence of Inspecting officers.	
	Do.	Do. ..	Bylur	..	Walls are of mud and with tiled roof	Do. do.	
	Do.	Do. ..	Ponnachi	310	41′ long by 15′ broad with mud walls and tiled roof.	Do. do.	
	Do.	Do. ..	Alambady	310	Do. do. do.	Do. do.	
	Do.	Do. ..	Hanur	310	Do. do. do.	Do. do.	

A detailed list of completed Forest buildings in the circle with their approximate cost, &c.—*cont.*

District.	Name of range.	Name of building.	Situation.	Cost.	Description of building and accommodation available	How used.	Remarks.
				RS.			
North Coimbatore—*cont.*	Kollegál	Inspecting officer's residence.	Thalabetta	570	41' long by 15' broad with mud walls and tiled roof.	As residence of Inspecting officer.	
	Do.	Do. ..	Gobinatham	570	Do. do. do. do. ..	Do. do.	
	Do.	Do. ..	Chengadi	250	33½' long by 16½' broad, with mud walls and tiled roof.	Do. do.	
	Bhaváni Range .	Ranger's quarters and store room.	Bhavani	350	41' long by 15' broad, do. do. ..	Do. do.	
	Do. ..	Do. ..	Tamarakarai	350	41' long by 15' broad, do. do. ..	Do. do.	
South Coimbatore.	Mettupálaiyam ..	Inspection shed ..	Tekkampatti ..	..	....	....	
	No. I Range ..	Residence and office ..	Mount Stuart ..	..	....	....	
	No. II ,, ..	Do. ..	Settumalai	..	....	....	
	No. VII ,, ..	Do. .	Alanthorai	..	....	....	
	Do. ..	Do. ..	Bolampatti	..	....	....	
	No. VIII ..	Do. ..	Nonkarai	..	....	....	
	Do. ..	Do. ..	Sholakarai	..	....	....	
Madura.	Cumbum Valley ..	Residence and office ..	Cumbum	1,256	Extent 45' by 30', elevation 2' from the ground; consists of 1 main room, 1 side room for the office, the other side room for the custody of records with a bath room, and also an out-house with kitchen and stables built of bricks and mud with tiled roof and plastered wall, the doors and windows being fixed.	Used as Ranger's residence and office.	
	Do. ..	Do. ..	Gúdalúr	695	Consists of 2 rooms (1 office room, 1 store-room and 1 bath room) with a verandah in front and on the rear, walls built of brick and mud and plastered with tiled roof, windows and doors fixed, and fenced all round.	Used as Forester's residence and office.	
	Do. ..	Rest-house	Vannathiparai ..	70	Consists of mud wall and thatched roof and is 15' square in extent with a verandah 5' wide all round.	Used by the Range officers and District Forest-officers while on inspection.	
	Do. ..	Do. ..	Cumbum	70	Do. do. ..	Range officer's residence during inspection.	
	Do. ..	Do. ..	Uttamapaleim ..	127	Do. do. ..	Used hitherto as Ranger's residence and office.	
	Do. ..	Do. ..	Combai	..	This building has a terraced roof built of brick and mortar, it contains 2 rooms.	Used by the Range officer and the District Forest-officer while on inspection.	Transferred from the Police Department.
	Palni Hill Range ..	Residence	Kodaikánal	3,267	Consists of 4 rooms of 12' × 12', 12' × 14', 12' × 9½', and 12' × 9½', respectively, 2 bath rooms and 1 store room with verandah on two sides. There are also kitchen, stables and godown.	Range officer's residence.	
	Do. ..	Office	Do. ..	..	Consists of 1 room for office and another for custody of records.	....	The cost of this is included in Range officer's quarters.

A detailed list of completed Forest buildings in the circle with their approximate cost, &c.—*cont.*

District.	Name of range.	Name of building.	Situation.	Cost.	Description of building and accommodation available.	How used.	Remarks.
				Rs.			
Madura.	Palni Hill range ..	Clerks' quarters ..	Kodaikánal	357	Consists of 2 rooms with a verandah 11′ × 11′. The walls are built of stone and mud and the roofing is of Calicut tiles.	Range clerks' residence.	
	Do. ..	Depôt-keepers' quarters and store room.	Gundan shola ..	893	Consists of 4 rooms, 3 of 10′ × 10′ each, and 1 of 8′ × 12′ ; the walls are of stone and mud, plastered and whitewashed ; with a verandah of 6′ wide in front and a passage dividing the rooms on each side Two rooms are set apart for office and store ; roofing is of second-class wood and Calicut tiles. The doors and windows are of wood.	Depôt-keepers' residence and depôt store room.	
	Do. ..	Gardeners and drivers' quarters and cattle shed.	Gundan shola ..	884	Gardeners' and drivers' quarters contain 8 rooms with walls of stone and mud and thatched roof ; cattle shed consists of 3 rooms, 2 of 15′ × 12′ each, and 1 of 18′ × 12′ , the walls of which are of stone and mud, with thatched roof and no doors.	....	
	Do. ..	Inspection shed ..	Periyakulam ..	1,084	This consists of 1 spacious room of 20′ × 14′ and 2 rooms of 12′ square with a verandah of 7′ wide on three sides. The walls are of brick and chunam and the roofing of first-class vengai wood. The main bulding is terraced and the verandah portion tiled. The doors and windows are all of wood, the latter having iron bars. The walls are plastered and whitewashed.	Used by the District Forest-officer and Range officer when on inspection	
	Do. ..	Forester's quarters ..	Balasamudram ..	542	Similar to forester's quarters at Gúdalúr ..	Forester's residence	Including fencing charge, Rs. 41-9-6.
	Do. ..	Rest-house	Kookal	70	Has only one room of 14′ square and a verandah of 5′ wide all round. The walls are of wattle and dab, with the roof thatched.	Used by Range officer while on inspection.	
	Do. ..	Do.	Poombarai	80	Do. do. do. ..	....	
	Do. ..	Do.	Moolayur	70	Consists of one large room of 16′ square with a verandah all round, 5′ wide. The walls are of mud and whitewashed and the roofing is thatched.	Used by Range officer and also by District Forest-officer and occasionally by the officers of other departments.	
	Do. ..	Do	Periyár	70	Do. do. do. ..	Used by Range officer only when on circuit.	
	Do. ..	Do.	Virupakshi	40	Has a single room 20′ × 12′ with mud walls and a 6′ verandah in front and one kitchen 12′ × 6′. The roof is a thatched one.	Do. do.	
	Do. ..	Do.	Kavalapatti	116	Has a single room of 18′ square with mud walls and a 5′ verandah all round and has a thatched roof.	Do. do.	

A detailed list of completed Forest buildings in the circle with their approximate cost, &c.—*cont.*

District.	Name of range.	Name of building.	Situation.	Cost.	Description of building and accommodation available.	How used.	Remarks.
				Rs.			
Madura.—*cont.*	Palni Hill range ..	Rest-house	Devadanapatti ..	70	Has a room 15′ square and in all other respects is similar to that of Kavalapatti.	Used by Range officer only when on circuit.	
	Dindigul range ..	Range officer's quarters and office.	Kanavaipatti ..	1,130	Similar to the Range officer's quarters and office at Cumbum, except that jungle wood is used for bressummers, &c.	As Range officers' residence and office.	
	Do. ..	Rest-house	Sirumalai	70	This is 15′ square with mud walls and thatched roof and is in a dilapidated condition.	Used by the Range officer and the District Forest-officer when on inspection.	
	Alagar Hill range ..	Range officer's quarters and office.	Palamedu	* 1,125	Similar in description to the Range officer's quarters and office at Cumbum.	As Range officer's quarters and office.	* Amount adjusted up to end of April 1891.
Tinnevelly.	Papanasam hills ..	Rest-house	Kannikatti	..	.....	....	
	...	Do.	Kalivilaipil	..	.....	....	
	Manantoddy ..	Residence	Manantoddy ..	12,377	Built of burnt bricks and teakwood, partly iron roofed under Mangalore tiles. Consists of 11 rooms and a verandah in front 50′ 5″ wide and a portico. Rooms are of the following dimensions :— 19′ 7″ × 9′; 16′ 4″ × 18′ 10″; 16′ 4″ × 7′ 11″, 18′ 10″ × 15′ 10″; 15′ 10″ × 7′ 11″; 7′ 11″ × 7′ 11″; 15′ 11″ × 17′ 11″; 16′ 5″ × 7′ 10″; 16′ 11″ × 8′, 16′ × 8′; 7′ 10″ × 7′ 10.	Residence for District Forest-officer.	District Forest-officer pays a rent of Rs. 25 per mensem.
North Malabar.	Do. ..	Stables	Do. ..	1,039	Built of burnt bricks and teakwood and tiled; has 6 rooms, one of 16′ 3″ × 10′ 2″ and 5 rooms of 10′ × 8″ 2′ each.	Used for tying horses and bullocks; and as residence of servants.	
	Do. ..	Cook room	Do ..	604	Built of burnt bricks and teakwood and tiled; has 4 rooms and a verandah in front 5′ 10″. The rooms are 15′ × 12′, 12′ × 12′, 15′ 4″ × 4′ and 12′ × 4′.	Used as cook room and store.	
	Do. ..	Old office	Do. ..	669	There are 3 rooms of 22′ × 11′ 9″, 25′ × 16′ 10″; 9′ 10″ × 6′ 10″ with verandah on three sides 8′ wide.	Used as record rooms.	
	Do. ..	New office	Do. ..	651	Has 2 rooms of 20′ × 13′ and 12′ × 13′ with 8′ verandah in front and back, 16′ 3″ × 10′ 2″.	Used as office.	
	Do. ..	Gardeners' house ..	Do. ..	42	Has a room 16′ 3″ × 10′ 2′	Residence of gardener of the Manantoddy experimental farm.	
	Do. ..	Seed house ..	Do. ..	264	Built of teakwood and burnt bricks with glazed roof of 15′ 2 × 10′ 8″ in dimension.	For raising plants.	
	Begur	Rest-house	Begur	1,143	Walled with teak planks and tiled, consists of two rooms of 16′ 2″ × 12′ and 11′ 8″ × 12′ and 4′ verandah in front.	Residence and office for the Range officer.	Was built by Mr. Peet in 1874 or 1875 at a cost of Rs. 1,000. It was a shingled one. It has been tiled at a cost of Rs. 142-13-1.
	Do.	Residence	Do.	574	Consists of 2 rooms 10′ × 10′ and a verandah all round 3′ wide.	Rest-house for the District Forest-officer.	

A detailed list of completed Forest buildings in the circle with their approximate cost, &c.—*cont.*

District.	Name of range.	Name of building.	Situation.	Cost as given by District Forest-officers.	Description of building and accommodation available.	How used.	Remarks.
				Rs.			
North Malabar—*cont.*	Begur	Elephant shed ..	Begur	602	It is of 58′ × 19′	Stabling elephants as well as residence for mahouts.	
	Do.	Mahout lines ..	Do.	561	Four rooms, each being 12′ × 9′		
	Do.	Store	Do.	375	Has one room 20′ × 12′ and another by 12′ × 12′ and verandah in front 3′ wide.	Storing provisions for elephants	
	Brammagiri	Rest-house	Brammagiri	1,026	Forest lodge built of rock and clay and roofed with iron: has 3 rooms, 14′ 3″ × 14′ 2″, 14′ 3″ × 14′ 2″ and 10½′ × 7′ with 4′ verandah in front.	Rest-house for District Forest-officer and Range officers for inspection.	
	Do.	Kitchen	Do.	197	Iron roofed and built of stone, bricks, &c., of 18′ 4″ × 11′ with a verandah 4′ 8″ in front.	Used as kitchen.	
	Tirunelly	Forest guard's station	Tirunelli	376	Built of mud with teak roof and tiled; has a room 17½′ × 9½′ with 5′ verandah all round.	Residence for forest guard.	
	Kakkery	Do. do. ..	Kakkery	242	Has a room 12′ × 12′ with verandah in front of 4′ wide; has the roof tiled.	Do. do.	
	Kaikaty	Do. do. ..	Kaikaty	230	Do. do. do. do. ..	Do. do.	
	Kartikolum	Do. do. ..	Kartikolum	230	Do. do. do. do. ..	Do. do.	
	Kuppadi	Residence and office.	Kuppadi	2,319	Built of sun-dried bricks and iron roofed; has 8 rooms, 2 of them being 14′ 6″ square, the other 2 being 14′ 3″ × 6′ 9″ and the remaining 4 being 6′ 9″ square each.	Residence and office for Range officer.	
	Dindinial	Do. do. ..	Dindinial	1,080	A bungalow with kitchen, &c., stable, built of burnt bricks and of different kinds of wood and tiled: has 11 rooms of 8¾′ × 8½′, 21′ × 8½′, 16½′ × 8½′, 16½′ × 8½′, 8½′ × 8½′, 13′ × 18¾′, 16½′ × 18¾′, 16¾′ × 16¾′, 16½′ × 27¼′, 13¼′ × 8½′, 8½′ × 8½′ in dimensions with 2 verandahs 34′ × 16¼′, 8½′ × 18¾′ and a porch 17′ × 21′ in front.	Rest-house for the District Forest-officer and Range officer.	Purchased from Messrs. Alston and Company.
	Mukkie	Do. do. ..	Mukkie	488	Wooden serambi, tiled; has 2 rooms 10′ square with a 3′ verandah all round.	Residence and office for Range officer.	
	Kanot	Do. do. ..	Kanot	416	Wooden serambi, tiled, bottom closed with sun-dried bricks; has 2 rooms of 10′ feet square each and a 4′ verandah all round.	Do. do.	
South Malabar.	Nilambúr	Inspection shed ..	Panangod	190	Serambi with tiled roofing; has a big room ..	Used as inspection shed by the District Forest-officers, Range-officers and Foresters.	
	Do.	Do. ..	Amarampalam ..	100	Serambi with thatched roof; has a room and is built of timber.	Do. do.	
	Do.	Office and residence ..	Nilambúr	5,000	A tiled bungalow built of laterite stone; has 6 rooms.	Ranger's quarters and Range office.	
	Do.	Office	Do.	2,000	Tiled house built of laterite stone; has 2 rooms.	Used as South Malabar District Forest-office.	

A detailed list of completed Forest buildings in the circle with their approximate cost, &c.—*cont.*

District.	Name of range.	Name of building.	Situation.	Cost as given by District Forest-officers.	Description of building and accommodation available.	How used.	Remarks.
				Rs.			
South Malabar—*cont.*	Nilambúr	Residence	Nilambúr hill ..	13,469	One storied tiled bungalow with out-houses, built of laterite stone; consists of 4 rooms, a store and pantry.	District Forest-officer's quarters.	
	Amarampalam ..	Rest-house	Karumpoya	240	Serambi with thatched roof, built of timber and has 2 rooms.	Rest-house for District Forest-officer and Range officer.	
	Do. ..	Do.	Nellikutta	100	Serambi with thatched roof, built of timber and has only one room.	Do. do.	
	Do. ..	Do.	Korampoya	250	Serami with thatched roof, built of timber and has 2 rooms.	Do. do.	
	Do. ..	Residence	Nerattikadava ..	48	Serambi with thatched roof, built of timber and has only one room.	Amarampalam Range officer's quarters.	
	Pálghat range ..	Rest-house	Karimala . ..	1,234	Bungalow having two rooms, built of sun-dried bricks, with iron roofing.	Used by the District Forest-officer and Range officer as rest-house.	
	Do. ..	Do	Walayar	2,710	Tiled bungalow with out-houses, 3 rooms and 2 bath rooms and built of rough stone.	Rest-house for District Forest-officers of South Malabar and South Coimbatore.	
	Do ..	Residence	Do.	655	Tiled house with 2 rooms built of rough stone ..	Forester's quarters (Walayar).	
	Do. ..	Office	Pálghat	..	Tiled bungalow (old munsif's court) with 4 rooms and built of bricks	Pálghat Range office ..	Transferred from Public Works Department.
	Do. ..	Residence	Dhoni	117	A thatched building with out-houses is built of bamboo tatties and has a room.	Used by the District Forest-officer and Range officer.	
South Canara					*Nil*		

APPENDIX E.

TRAMWAYS.

South Coimbatore.—The plant consists of the following :—

Seven miles of portable railway suitable for animal power (system A, page 12, Fowler's Catalogue of Light Railways, No. 43, Part IV) with steel rails, steel corrugated sleepers and wrought steel chairs riveted on full width of sleeper, 14 lb. per yard, 2 feet gauge; 5 crossings; 1 portable turn-table, 3 feet diameter; 1 weighing machine, 3½ feet square; 25 waggons, type H.H. of the Catalogue; 1 tool box; 4 eccentric tongs; 8 extras :—

	RS.	A.	P.
The total cost of plant *plus* freight	42,447	13	9
Total cost of transport from Madras to the Anaimalais *plus* sundries	8,655	4	0
Cost of preparing the road and putting down the line ...	5,782	13	11
Total expenditure in 1888-89 ...	56,885	15	8
Cost of brakes purchased .. ..:.	245	1	6
Cost of preparing the road and putting down the line ...	2,955	13	6
Total expenditure in 1889-90 ...	3,200	15	0
Cost of wynch	260	0	5
Sundries (repairing trucks, &c.)	176	15	6
Cost of preparing the road and putting down the line ...	1,870	0	10
Total expenditure in 1890-91 ...	2,307	0	9
Grand Total of capital outlay ..	62,393	15	5
Deduct from the expenditure as shown above, the probable expenditure which would have been incurred for the maintenance of roads for cart traffic if there had been no tramway	2,393	15	5
Net amount of capital outlay on tramways ...	60,000	0	0

The following is the revenue or working account :—

As regular traffic on the line commenced only towards the end of 1889-90, the figures for the two years will be taken together.

Quantity of timber carried in			Actual expenditure.			Allowance for deterioration of plant at 6 per cent. per annum on Rs. 42,000.	Interest at 4 per cent. per annum on the capital outlay of Rs. 60,000	Total cost by tramway	Probable cost of carrying the same by country carts	Average cost per cubic foot per mile by tramway.	Average cost per cubic foot per mile by common carts.
1889-90.	1890-91.	Total	1889-90.	1890-91	Total.						
C. FT.	C. FT.	C. FT	RS	RS	RS.	RS.	RS.	RS	RS.	RS. A. P.	RS. A. P.
18,353	56,102	74,455	1,019	3,483	4,502	2,520	2,400	9,422	11,912	0 0 3	0 0 4

The District Forest-officer writes : "The present saving is not very considerable, but the more timber removed the greater will be the saving, and it is hoped that during 1891-92 after the arrival of the extra trucks and cranes a greater quantity will be removed. Further, it is now possible to remove a greater quantity of timber than hitherto, when only country carts were procurable, so there is an increase of revenue; and it is found possible to fell and remove at a profit inferior classes of jungle-wood trees which were never removed before, and this will improve the condition of the forest. All this must be taken into consideration in gauging the value of the tramway.

"During the year, the line was extended to Sungam and very much straightened by the removal of curves. If the line could be extended to the foot of the ghât by means of a self-acting incline, a still greater saving would be effected, and it would then be possible to get out at a profit, from the top of the ghât, large quantities of bamboos and fuel, which cannot now be done by means of country carts."

North Arcot.—The plant consists of the following :—

Two miles of portable tramway (as that in South Coimbatore) ; 2 crossings ; 1 weighing machine ; 5 waggons, type J ; 1 waggon, type K ; 1 tool-box.

	Rs.	A.	P.
The total cost of plant *plus* freight and carriage to the plantation site	10,815	8	11
Road-making, repairs, &c.	237	2	9
Total expenditure in 1888-89	11,052	11	8
Road-making, repairs, &c., in 1889-90	296	7	3
New wheels purchased, repairs, &c., in 1890-91	179	0	0
Total Capital outlay ..	11,528	2	11
Deduct from the expenditure on roads as shown above, the probable expenditure which would have been incurred on such works for ordinary cart traffic	128	2	11
Net amount of Capital outlay on Tramway ...	11,400	0	0

The following is the revenue or working account :—

Quantity of wood carried in				Actual expenditure				Allowance for deterioration of plant at 6 per cent on Rs 10,500.	Interest at 4 per cent. per annum on the capital outlay of Rs 11,400	Total cost by tramway.	Probable cost of carrying the same by country carts	Average cost per ton per mile by tramway.	Average cost per ton per mile by country carts.
1888-89.	1889-90.	1890-91	Total.	1888-89	1889-90	1890-91	Total.						
TONS.	TONS.	TONS	TONS	RS.	RS	RS	RS	RS.	RS	RS.	RS	RS A. P.	RS. A. P.
940	1,824	1,495	4,259	88	226	* 309	623	630	456	1,709	2,185	0 3 3	0 4 1

* Includes Rs 168, being gateman's pay.

With reference to the rate of profit, the District Forest-officer writes :—"This does not perhaps read high, but it would have been much higher—

"(1) If we had not run short of line by nearly half a mile.

"(2) If the contractor had not failed in his contract, thus causing delivery of about 500 tons less than was expected.

"(3) If the working plan had allowed us to transport more, I calculate that less than one-third of the full working capability of the line was taken out.

"In taking into consideration the transport by carts, no allowance, of course, could be made for the following items which, however, are really very important :—

"i. Risk of loss by advances to bandymen.

"ii. Possible difficulty of procuring carts when most required.

"iii. Probability of strikes for higher rates."

APPENDIX F.

Outturn of coupes felled on the coppice with standard system in Tinnevelly during 1890-91.

Taluk.	Number of coupes	Area	Cost of felling demarcation, &c	Total amount of outturn of wood in Tons	Total amount of revenue realized	Total net profit	Average net profit per acre.	Average yield per acre in tons of wood.	Average yield per acre in cubic feet.
			RS. A P.		RS A. P.	RS. A. P.			
Srivilliputur	8	415	54 11 8	1,045	3,858 6 0	3,803 6 4	9	2½	135
Sankaranainárkoil	21	240	13 8 0	1,800	2,640 0 0	2,626 8 0	11	7½	405
Tenkási	19	150	57 0 8	2,460	4,620 0 0	4,562 15 4	30½	16½	891
Ambásamudram	5	190	402 5 4	1,540	2,811 2 6	2,699 4 8	14	8	432
Nángunéri	3	300	..	2,130	2,181 4 0	2,181 4 0	7½	7	378
Total ..	56	1,295	527 9 8	8,975	16,110 12 6	15,873 6 4	12	8½	448

Annual Form No. 59.

Forest Department, Madras, Southern Circle.

Area of Reserved Forests, 1890-91.

District.	Range.	Name of Forest.	Area on 1st April 1890.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1891.		Number and date of notification of addition or transfer.	Remarks.
			Acres	Equivalent in square miles.	Acres.	Acres.	Acres	Equivalent in square miles.		
Chingleput.	Tiruvallór	Kambakkam	14,951	..	..	..	14,951	..	....	
		Sathiavedu	6,859	..	..	..	6,859	..	....	
		Ambakkam	5,259	..	..	..	5,259	..	....	
		Aradur	2,680	..	..	..	2,680	..	....	
		Kadur	2,494	..	..	..	2,494	..	....	
		Ugumudi	2,874	..	..	..	2,874	..	....	
		Allikuli	5,649	..	..	..	5,649	..	....	
		Nagalapuram	8,345	..	..	..	8,345	..	....	
		Pulrambakkam ..	577	..	..	..	577	..	....	
		Mylapore	..	..	930	.	930	..	No. 484, 30th October.	
		Vembedu	1,075	..	..	..	1,075	..	....	
		Alamadi	1,263	..	..	..	1,263	..	....	
		Tirukkalukunram ..	697	..	..	..	697	..	....	
		Oragadam	540	..	..	..	540	..	....	
		Madayattore	697	..	..	..	697	..	....	
		Vallam	1,328	..		..	1,328	..	....	
		Nemali	..	..	633	..	633	..	No. 147, 26th March 1890.	
		Alapakkam, A and B.	..	..	486	..	486	..	No. 150, 28th March 1890.	
		Vandalore	3,207	..	..	..	3,207	..	....	
		Kolathur (*alias*) Appur.	..	..	1,449	..	1,449	..	G.O., No. 941, 20th November.	
		Venkatapuram ..	119	..	..	.	119	..	....	
		Tiruteri	272	..	..	..	272	..	....	
		Paranur	..	..	378	..	378	..	No. 383, 9th August.	
		Kotankolatur ..	..	..	535	..	535	..	No. 372, 9th August.	
		Kavanur	..	..	569	..	569	..	No. 371, 9th August.	
		Siruvanjur	..	..	465	..	465	..	No. 256, 9th June.	
		Orathur	312	..	..	..	312	..	....	
		Vadakupattu	..	..	795	..	795	..	No. 389, 9th August.	
	Chingleput	Kuttrambakam, A ..	..	..	126	..	126	..	No. 76, 12th February.	
		Do. B ..	..	..	205	..	205	..	No. 89, 18th February.	
		Puduppur	..	.	375	..	375	..	No. 149, 28th March.	
		Mannur	..	..	570	..	570	..	No. 134, 24th March.	
		Nallur . ..	..	..	937	..	937	..	No. 87, 18th February.	
		Manganiyam	..	..	946	..	946	..	No. 136, 24th March.	
		Kalvayi	..	..	138	.	138	..	No. 70, 6th February.	
		Kolattur	..	..	1,909	..	1,909	..	No. 146, 26th March.	
		Kayar	..	..	642	..	642	..	No. 69, 6th February.	
		Taiyur	..	..	1,084	..	1,084	..	No. 246, 9th June.	
		Sonallur	..	..	1,107	..	1,107	..	No. 97, 28th February.	
		Unamanjori	..	..	750	..	750	..	No. 291, 30th June.	
		Alathur	..	..	488	..	488	..	No. 267, 20th June.	
		Illalur	..	..	692	..	692	..	No. 293, 30th June.	
		Hanumantaputteri ..	..	..	286	..	286	..	No. 206, 21st May.	
	Saidápet.	Tandrai	664	..	..	..	664	..	....	
		Pulikaradu	..	..	176	..	176	..	No. 236, 4th June.	
		Tambaram	..	..	262	..	262	..	No. 321, 21st July.	

Area of Reserved Forests, 1890-91—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1890.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1891.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Chingleput—*cont.*	Saidápet—*cont.*	Kadapperi	..	..	227	..	227	..	No. 225, 3rd June.	
		Selaiyur	..	.	498	..	498	..	No. 349, 28th July.	
		Madurapakam ..	..	..	351	..	351	..	G.O., No. 7, 20th December.	
		Nanmangalam ..	..	..	328	..	328	..	G.O., No. 931, 18th November.	
		Eurumaiyur	..	..	192	..	192	..	G.O., No. 294, 30th June.	
		Perumbakam, A ..	..	..	636	..	636	..	G.O., No. 953, 22nd November.	
		Do. B ..	..	..	117	..	117	..	G.O., No. 739, 19th September.	
		Maiyur	..	..	534	..	534	..	G.O., No. 423, 19th September.	
		Sikkarayapuram	..	..	93	..	93	..	G.O., No. 7, 20th December.	
		Kuttambakam .	..	..	300	..	300	..	G.O., No. 331, 21st July.	
		Mittanalai	..	..	267	..	267	..	G.O., No. 461, 18th October.	
		Tirumalavayal ..	..	..	386	..	386	..	G.O., No. 543, 6th December.	
		Nandrambakam ..	..	..	259	..	259	..	G.O., No. 444, 3rd October.	
		Total ..	59,862	93·54	21,121	..	80,983	126·54		
North Arcot.	Chittoor.	Paradarami	15,043	..	..	..	15,043	..	....	
		Pachigunta	1,800	..	..	..	1,800	..	....	
		Kinatipalli	..	..	1,417	..	1,417	..	No. 460, 21st October.	
		Chilapalli	..	..	1,296	..	1,296	..	No. 263, 24th June.	
		Penamur	..	..	6,400	..	6,400	..	No. 462, 21st October.	
	Chandragiri.	Napier reserve ..	8,772	..	..	..	8,772	..	....	
		Mamandur reserve ..	1,776	..	..	..	1,776	..	....	
		Chamala reserve ..	9,600	..	..	..	9,600	..	..	
		Panapak	6,400	.	.	..	6,400	..	....	
		Pudipatla bail ..	2,560	..	..	..	2,560	..	....	
		Gazulamandiyam ..	250	..	..	..	250	..	....	
		Mamandúr extension.	..	..	8,000	..	8,000	..	No. 481, 4th November.	
		Tirupati Hill ..	..	..	16,000	..	16,000	..	No. 482, 4th November.	
	Palmanér.	Musalimadugu ..	9,600	..	..	..	9,600	..	....	
		Basvireddipalle ..	10,240	..	..	..	10,240	..	....	
		Poddur ..	9,600	..	..	..	9,600	..	....	
		Palmanér tope ..	2	..	..	..	2	..	....	
		Nagamangalam ..	31	..	..	..	31	..	....	
		Pedugavaripalle ..	20	..	..	..	20	..	....	
		Venkatagirikota ..	4	..	..	..	4	..	....	
		Byreddipalle	4	..	..	..	4	..	....	
	Palmanér and Gudiyátam.	Mortana	16,000	..	..	..	16,000	..	....	
		Naickaneri	6,400	..	..	..	6,400	..	....	
	Gudiyatam.	Ambúr drug	5,760	..	..	..	5,760	..	....	
		Tiruvallam plantation.	435	..	..	..	435	..	....	
		Virinjipuram plantation.	260	..	..	..	260	..	....	
		Cheynur tope .	130	..	..	..	130	..	....	
		Amundi plantation ..	160	..	..	..	160	..	....	
		Tandrayagunta tope ..	2	..	..	..	2	..	....	
		Vikramasi	161	..	..	..	161	..	....	
	Vellore ..	Ambúr fuel coupe ..	3,840	..	..	..	3,840	..	....	
		Palamadi	6,400	..	..	..	6,400	..	....	
		Ambúr tope	5	..	..	..	5	..	....	

Area of Reserved Forests, 1890-91—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1890.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1891.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles		
North Arcot—*cont.*	Pólúr ..	Carnatic Ghur ..	7,069	..	..	..	7,069	..	....	
		Ammerdi plantation .	25	..	..	..	25	..	....	
	Vellore and Pólúr.	Tellai	15,121	..	..	..	15,121	..	....	
	Pólúr ..	Puttur	12,800	.	..	..	12,800	..	....	
		Patrakad	19,200	..	..		19,200	..	....	
		Virappanur	64,000	..	..	..	64,000	..	....	
	Arcot ..	Punganúr	3,743	..	..	..	3,743	..	....	
		Kilminnel plantation .	150	..	..	..	150	..	....	
		Sennaleri	1,675	..	..	..	1,675	..	....	
	Wálajá-pet.	Vannivedu plantation.	30	..	..	..	30	..	....	
		Arkónam Sub-Magistrate's office compound.	5	..	..	..	5	..	....	
		Arkonam tope ..	37	..	..	..	37	..	....	
		Gúdalúr .. .	535	..	..	..	535	..	...	
		Anantapuram or Urúr.	540	..	..	..	540	..	....	
		Ammanur	203	..	..	..	203	..	....	
		Banavaram	..	.	1,051	..	1,051	..	No. 56, 27th February.	
	Wandiwash.	Brammakateri ..	635	..	.	..	635	..	....	
		Total ..	241,023	376·60	34,164	.	275,187	430·00		
South Arcot.	No. I, Tiruvannámalai.	Annamalai	2,640	..	..	..	2,640	..	....	
		Chinnasamudram ..	3,769	..	..	..	3,769	..	....	
		Mudenai	6,464	..	..	..	6,464	..	....	
		Perungolatur swámimalai.	9,312	..	..	..	9,312	..	...	
		Anandavadi	8,672	..	..	..	8,672	..	....	
		Kavuttumalai ..	10,032	..	..	..	10,032	..	....	
		Tippakadu	4,544	..	..	102	4,442	..	Declared unreserved (Board's Proceedings, No. 581, 20th September.)	
		Siruvadi ..	4,608	..	..	..	4,608	..	....	
		Muttakadu	4,053	..	..	..	4,053	..	....	
		Karai	1,697	..	..	..	1,697	..	....	
		Agaram .. .	600	..	..	..	600	..	....	
		Merkanam . .	80	.	..	..	80	..	....	
		Kurumbaram, 2nd bit.	192	..	..	..	192	..	....	
	No. II, Tindivanam.	Kumalampatti ..	1,201	..	..	..	1,201	..	....	
		Sevur	1,200	..	..	..	1,200	..	....	
		Panchalam	..	..	1,120	..	1,120	..	No. 511, 25th November.	
		Venmaniyattur ..	486	..	..	..	486	..	....	
		Peradikuppam ..	..	..	729	..	729	..	No. 348, 5th August.	
		Akkur	..	..	1,350	..	1,350	..	No. 347, 5th August.	
		Saram	243	..	..	..	243	..	....	
		Salavadi	64	..	..	..	64	..	....	
		Jakkampettai ..	300	..	..	..	300	..	....	
		Adikuppam	150	..	..	..	150	..	...	
		Ashikadu	450	..	..	..	450	..	....	
		Gangavaram	13,276	..	..	..	13,276	..	....	
		Nabob's tope	70	..	..	3	67	..	Declared unreserved (Board's Proceedings, No. 581, 20th September.)	
	No. III, Villupuram.	Vakkur	..	..	384	..	384	..	No. 270, 24th June.	
		Vikkravandi	..	..	256	..	256	..	No. 51, 17th February.	
		Satanur, 1st bit ..	..	..	204	..	204	..	No. 415, 1st December.	
		Narasinganur ..	..	..	428	..	428	..	No. 386, 19th August.	

Area of Reserved Forests, 1890-91—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1890		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1891.		Number and date of notification of addition or transfer.	Remarks.
			Acres	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
South Arcot—*cont.*	No. III, Villupuram—*cont.*	Gundalapuliyur ..	..	..	940	..	940	..	No. 79, 3rd March.	
		Karanai	..	..	128	..	128	..	No. 431, 30th September.	
		Adanur	1,491	..	.	..	1,491	..	....	
		Ariyalúr	..	..	1,036	..	1,036	..	No. 281, 1st July.	
	No. IV, Cuddalore.	Vellakarai	..	..	1,568	..	1,568	..	No. 322, 22nd July.	
		Valudalampattu ..	..	..	908	..	908	..	No. 376, 19th August.	
		Sammattikuppam ..	364	..	..	..	364	..	....	
		Marungur	224	..	..	..	224	..	....	
		Vegakottai	..	..	480	..	480	..	No. 267, 24th June.	
		Vadakottu ..	..	..	3,084	..	3,084	..	No. 72, 11th February	
		Valudayampattu ..	..	..	1,536	..	1,536	..	No 72, 24th February.	
		Kanjiruppu, 1st bit ..	..	..	2,956	..	2,956	..	No. 389, 26th August.	
		Velankuppam ..	..	.	1,094	..	1,094	..	No. 333, 29th July.	
		Shonankuppam ..	..	..	140	..	140		No. 436, 30th September.	
		Total ..	76,182	119·03	18,341	105	94,418	147·53		
Salem.	Salem ..	Bodamalai	5,600	..	..	..	5,600	..	....	
		Atur ghât	3,142	..	..	..	3,142	..	....	
		Mallapuram ghât ..	..		2,285	..	2,285	..	No. 364, 12th August.	
		Nartanchedu ..	2,400	..	..	..	2,400	..	....	
		Vaniyar	4,512	..	.	..	4,512	..	....	
		Kutar	3,795	..	..	..	3,795	..	....	
		Manjavadi ghât ..	8,461	..	..	..	8,461	..	....	
		Mallapuram ghât extension.	..	..	640	..	640	..	No. 367, 12th August	
		Ajjampatti	1,920	..	..	..	1,920	..	....	
		Nartanchedu extension.	1,088	..	..	..	1,088	..	....	
		Yerimalai	3,520	..	..	..	3,520	..	....	
		Kanavoipudur ..	3,200	..	..	..	3,200	..	....	
		Lokur	5,312	..	..	..	5,312	..	....	
		Pillapallikombai, New.	2,080	..	..	..	2,080	..	....	
		Atúr ghât extension.	544	.	..	..	544	..	....	
		Kanjeri, New ..	4,032	..	..	..	4,032	..	....	
		Pannikaradu ..	4,832	.	..	..	4,832	..	....	
		Mallapuram . ..	589	..	..	..	589	..	....	
		Karuvattuparai ..	1,800	..	..	..	1,800	..	....	
		Gundakal	4,000	..	..	..	4,000	..	....	
		Manakonda	5,500	..	..	..	5,500	..	....	
		Puliyankidai ..	..	..	1,000	..	1,000	..	No. 71, 24th February.	
		Mattikottai	..	..	3,500	..	3,500	..	No. 201, 20th May.	
		Pungamadavi ..	..	..	2,500	..	2,500	..	No. 195, 20th May.	
		Godumalai	7,000	..	..	..	7,000	..	....	
		Jalluttu	12,000	..	..	..	12,000	..	....	
		Kanjamalai	..	..	4,500	..	4,500	..	No. 507, 25th November.	
		Mary Land	..	..	400	..	400	..	No. 264, 24th June.	
	Atúr ..	Varagur	2,675	..	..	..	2,675	..	....	
		Nayakenkombai ..	2,880	..	..	..	2,880	..	....	
		Bylur	6,880	..	..	..	6,880	..	....	
		Nagur	3,757	..	..	..	3,757	..	....	
	Námakal ..	Jambuttu	2,617	..	..	..	2,617	..	....	
		Puliyanshola ..	5,530	..	..	..	5,530	..	....	
	Atúr and Námakal	Karavallikombai ..	8,755	.	..	..	8,755	..	....	
	Uttankarai.	Pallipatti	8,000	..	..	..	8,000	..	....	
		Thambakal . ..	7,757	..	..	..	7,757	..	....	
		Chittori	3,917	..	..	..	3,917	..	....	
		Chittilingi	6,880	..	..	..	6,880	..	....	
		Kottapatti ..	8,960	..	..	..	8,960	..	....	
		Puvampatti	4,672	..	..	..	4,672	..	....	

Area of Reserved Forests 1890-91—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1890.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1891.		Number and date of notification of addition or transfer.	Remarks.
			Acres	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Salem—*cont.*	Uttankarai—*cont*	Singarapet	2,624	..	..	..	2,624	..		
		Mallapuram extension	400	..	..	..	400	..		
	Tirupatúr.	Mangalam	6,080	..	..	..	6,080	..		
		Nagaluttu	2,560	..	..	..	2,560	..		
		Mambakam	9,370	..	..	..	9,370	..		
		Pungolam	7,834	..	..	..	7,834	..		
		Mudukaddappu ..	2,048	..	..	..	2,048	..		
		Jalarpet	1,216	..	..	..	1,216	..		
		Narasingapuram ..	2,048	..	..	..	2,048	..		
		Kalarapatti ..	2,016	..	..	..	2,016	..		
		Alangayam	11,520	..	..	..	11,520	..		
	Tirupatur and Uttankrarai	Singarapet extension	7,398	..	..	..	7,398	..		
	Tirupatur and Krishnagiri.	Kótúr	3,840	..	..	..	3,840	..		
	Hosur ..	Ayyur	5,952	..	..	..	5,952	..		
		Marandahalle ..	5,824	..	..	..	5,824	..		
		Gulhatti, New ..	7,942	..	..	..	7,942	..		
		Manchi, New.. ..	5,632	..	..	..	5,632	..		
		Jowlagiri	6,016	..	..	..	6,016	..		
		Tallo	6,368	..	..	..	6,368	..		
		Naganur	3,200	..	..	..	3,200	..		
		Denkanikota	2,816	..	..	..	2,816	..		
		Toluvabetta ..	6,919	..	..	..	6,919	..		
		Anchotti	8,832	..	..	..	8,832	..		
		Natrapalaiyam ..	10,880	..	..	..	10,880	..		
		Biligundla	14,272	..	..	..	14,272	..		
		Kestur	11,616	..	..	..	11,616	..		
		Billikal	11,136	..	..	..	11,136	..		
		Mallahalli	8,928	..	..	..	8,928	..		
		Taggatti	10,432	..	..	..	10,432	..		
	Dharmapuri.	Pennagaram	10,304	..	..	..	16,304	..		
		Morappur	16,640	..	..	..	16,640	..		
		Bisnurmalai	..	..	11,500	..	11,500	..	No. 508, 25th November.	
	Hosúr and Dharmapuri.	Woddapatti	17,152	..	..	..	17,152	..		
		Gutirayon	15,776	..	..	..	15,776	..		
	Krishnagiri.	Burgur, New.. ..	1,920	..	..	..	1,920	..		
		Togarapalli	900	..	..	..	900	..		
	Tiruchengód.	Pakkanad	4,500	..	..	..	4,500	..		
		Total	411,518	643·00	26,325	..	437,843	684·13		
Trichinopoly	Trichinopoly.	Tuvakudi	1,438	..	..	..	1,438	..		
	Kulitalai.	Elamanur	117	..	..	..	117	..		
		Pettavoitalai	137	..	..	..	137	..		
		Kulitalai	77	..	..	..	77	..		
		Manatattai	45	..	..	..	45	..		
		Lalapet	268	..	..	..	268	..		
		Sittalavoi	160	..	..	..	160	..		
		Kattalai	75	..	..	..	75	..		
		Tainimalai	464	..	..	..	464	..		
		Minnakaradu ..	98	..	..	..	98	..		
		Panjantangi	1,543	..	..	..	1,543	..		
		Viramalai Hills ..	5,472	..	..	..	5,472	..		
		Poiyapatti do. ..	639	..	..	..	639	..		
		No. 1, Shemmalai ..	2,477	..	..	..	2,477	..		
		Pakkiri Karadu	65	..	..	..	65	..		
		Puttanatam range comprising Karumalai, Palamalai and Nadumalai ..	705	..	..	..	705	..		
		Surpam range ..	1,403	..	..	..	1,403	..		
		Mathalamalai ..	465	..	..	..	465	..		
		Maradur	..	..	180	..	180	..	No. 441, 7th October.	
		Mayanur	...	..	50	..	50	..	No. 442, 7th October.	

Area of Reserved Forests, 1890-91—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1890. Acres.	Area on 1st April 1890. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1891. Acres.	Area on 31st March 1891. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Trichinopoly—*cont.*	Kulitalai—*cont.*	No. II, Shemmalai ..	..	..	1,593	..	1,593	..	No. 443, 7th October.	
		Sigam Karadu ..	..	..	714	..	714	..	No. 105, 4th March 1890.	
	Musiri ..	Sengattupatti ..	3,000	..	..	..	3,000	..	....	
		Melúr	3,000	..	..	..	3,000	..	....	
		Kaliammankoil tittu,	1,500	..	..	..	1,500	..	....	
		Karuppankadu tittu.	2,000	..	..	..	2,000	..	....	
		Kanapadi kannimarsolai.	2,560	..	..	..	2,560	..	....	
		Kanapadi Thenpara nád.	12,000	..	..	..	12,000	..	....	
		Palamalai	10,000	..	..	..	10,000	..	....	
	Perambalúr.	Manalodai	4,000	..	..	..	4,000	..	....	
		Solamatte	7,000	..	..	..	7,000	..	....	
		Selaiyur	1,600	..	..	..	1,600	..	....	
		Puliyur	10,000	..	..	..	10,000	..	....	
		Semmalai	5,000	..	..	..	5,000	..	....	
		Sengattur	10,000	..	..	..	10,000	..	....	
	Udáyárpálaiyam.	Adanakurichi ..	250	..	..	..	250	..	....	
		Malaungankudiyiruppu	150	..	..	..	150	..	....	
		Tennamanallur ..	..	..	10	..	10	..	No. 375, 19th August.	
		Valakkurichi	..	..	48	..	48	..	No. 377, 19th August.	
		Total ..	87,708	137·05	2,595	..	90,303	141·09		
Tanjore.	Southern Range.	Block No. 2, Meltottam eastern block.	10	..	..	..	10	..	....	
		Block No. 3, Meltottam western block.	8	..	..	..	8	..	....	
		Manakadu	120	..	..	..	120	..	....	
		Talanayar	2,000	..	..	..	2,000	..	....	
		Tillaivilagam ..	320	..	..	..	320	..	....	
		Nedur No. 2	200	..	..	..	200	..	....	
		Thatchankurichi ..	320	..	..	..	320	..	....	
		Veralipatti, North block.	145	..	..	..	145	..	....	
		Veralipatti, South block.	234	..	..	..	234	..	....	
		Kallupatti	85	..	..	..	85	..	....	
		Kollangarai	458	..	..	..	458	..	....	
		Puttur No. 1 ..	191	..	..	..	191	..	....	
		Nadur No. 1 ..	1,000	..	..	..	1,000	..	....	
		Puttur No. 2 ..	119	..	..	..	119	..	....	
	Northern Range.	Northern casuarina ..	350	..	..	..	350	..	....	
		Southern do. ..	250	..	..	..	250	..	....	
		Neduvasal	42	..	..	..	42	..	....	
		Total ..	5,852	9·14	..	..	5,852	9·14		
North Coimbatore.	Kollegál ..	Jadatalahulla	361	..	..	..	361	..	....	
		Udayárpálaiyam ..	297	..	..	..	297	..	....	
		Bylore	1,186	..	..	..	1,186	..	....	
	Satyamangalam.	Germalam	520	..	..	..	520	..	....	
		Vellamundi	12,800	..	..	..	12,800	..	....	
		Eastern slopes of Nilgiris.	60,800	..	..	..	60,800	..	....	
		Total ..	75,964	118·69	..	..	75,964	118·69		
South Coimbatore.	No. 1, Tunacadavu and No. 2, Polláchi.	Anamalais, No. 1 ..	52,480	..	..	..	52,480	..	....	
	No. 2, Polláchi.	Do. ,, 2 ..	3,140	..	..	..	3,140	..	....	
	No. IV, Udamalpet	Do. ,, 3 ..	47,360	..	..	..	47,360	..	....	

Area of Reserved Forests, 1890–91—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1890. Acres.	Area on 1st April 1890. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1891. Acres.	Area on 31st March 1891. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
South Coimbatore—*cont.*	No. II, Pollâchi and Udmalpet.	Anamalais	133,120	..	..	..	133,120	..	....	
	No. VII, Bolampatti and VIII, Sholakarai.	Bolampatti block No. I.	47,680	..	..	..	47,680	..	....	
	No. VII, Bolampatti.	Bollampatti block No. II								
		Bollampatti block No. III.								
		Tadagam No. IV ..	30,720	..	..	..	30,720	..	....	
	No. VI, Mettûpâlaiyam	Gopanari V..								
		Kompampâlaiyam VI.	38,200	..	..	..	38,200	..	....	
		Nellitorai VII ..								
		Odanthorai VIII ..	5,880	..	..	..	5,880	..	....	
		Modur IX ..	3,600	..	..	..	3,600	..	....	
	No. VIII, Sholakarai range.	Small Sholakarai reserve.	81	..	..	..	81	..	....	
		Total ..	362,261	566·03	..	..	362,261	566·03		
Madura.	I. Cumbum valley.	*Cumbum Valley, east.*								
		Block No. 1, Kuttinachiar.	640	..	..	..	640	..	....	
		Block No. 2, Surulipatti.	5,760	..	..	..	5,760	..	....	
		Block No. 3, Pandaratorai.	300	..	..	..	300	..	....	
		Block No. 4, Vannatiparai.	27,482	..	* 38	..	27,520	..	....	* The result of measurements taken from the 1 inch taluk maps supplied only recently by the Madras Survey Department, the areas in former years having been only roughly estimated in the absence of such maps.
		Block No. 5, Melagudalur.	1,280	..	..	..	1,280	..	....	
		Cumbum Valley, west.								
		Block No. 1, Suranganar.	3,616	..	..	..	3,616	..	....	
		Block No. 2, Matchakal.	2,560	..	..	..	2,560	..	....	
		Tambirankanal ...	250	..	* 6	..	256	..	....	
	II. or Palni Hill Range.	*Palni Hills, Southern slopes, west.*								
		Block No. 1, Amburivi.	3,840	..	..	..	3,840	..	....	
		Block No. 2, Sengalvaraiar.	5,210	..	..	..	5,210	..	....	
		Block No. 3, Karungaldhonimedu.	..	..	1,920	..	1,920	..	G.O., Nos. 350, 350-A, 20th May.	
		Block No. 4, Pambar.	4,755	..	..	* 512	4,243	..	....	
		Block No. 5, Adukkam.	..	..	3,200	..	3,200	..	G.O., Nos. 576, 576-A, 21st July.	
		Palni Hills, Southern slopes, east.								
		Block No. 1, Marudanadiar.	6,528	..	..	..	6,528	..	....	
		Block No 2, Kadugatadi.	1,280	..	..	..	1,280	..	....	
		Block No. 3, Arunkanal.	2,560	..	..	* 640	1,920	..	....	
		Block No. 4, Arunkanal shola.	..	..	* 32	..	32	..	....	

Area of Reserved Forests, 1890-91—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1890.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1891.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Madura.	II or Palni Hill Range—*cont.*	*Palni Hills, Southern slopes, east*—cont.								
		Block No. 6, Unjalanchi	..	..	256	..	256	..	G.O., Nos. 102, 102-A, 12th February 1891.	
		Varatharkanal ..	200	..	..	* 40	160	..	....	
		Iruttarkanal	100	..	..	..	100	..	....	
		Pambukkalai ..	800	..	..	..	800	..	....	
		Kokkuparai	..	..	320	..	320	..	No. 536, 2nd December.	
		Palni Hills, Northern slopes, east.								
		Block No. 1, Siruvattukadu.	2,279	..	..	..	2,279	..	....	
		Block No. 2, Northern slopes.	..	..	12,800	..	12,800	..	G.O., Nos. 1025, 1025-A Rev., 19th December.	
		Block No. 3, Vennilai.	4,800	..	..	..	4,800	..	....	
		Block No. 4, Kanienkadu.	3,002	..	..	..	3,002	..	....	
		Block No. 5, Norchiarkad.	200	..	..	..	200	..	....	
		Block No. 6, Talaiarandarkovil kad.	30	..	..	..	30	..	....	
		Palni Hills, Northern slopes, west.								
		Block No. 1, Pumbarai Vilpatti valley.	13,587	..	..	..	13,587	..	....	
		Block No. 2, Velancombai	1,600	..	..	..	1,600	..	....	
		Block No. 3, Velancombai plantation.	54	..	..	..	54	..	....	
		Block No. 4, Oliyanathuodai.	3,200	..	..	..	3,200	..	....	
		Block No. 5, Kukkal.	9,645	..	..	..	9,645	..	....	
		Block No. 6, Kudraiyar.	10,061	..	..	..	10,061	..	....	
		Perumalmalai.								
		Block No. 1, Perumalmalai.	12,800	..	..	..	12,800	..	....	
		Block No. 2, Thogavarai shola.	..	..	* 32	..	32	..	....	* The result of measurements taken from the 1 inch taluk maps supplied only recently by the Madras Survey Department, the areas in former years having been only roughly estimated in the absence of such maps.
		Block No. 3, Talaiarkadu.	150	..	..	..	150	..	....	
		Block No. 4, Kadamaravu.	50	..	..	..	50	..	....	
		Kallar.								
		Block No. 1, Kallar.	9,600	..	..	..	9,600	..	....	
		Block No. 2, Ariyanuttukanal.	64	..	..	..	64	..	....	
		Block No. 3, Kumangovaimalai.	80	..	..	..	80	..	....	
		Lower Palni sholas.								
		Block No. 1, Kadavu.	..	..	* 64	..	64	..	....	
		Block No. 2, Petrankanal.	80	..	..	..	80	..	....	
		Upper Palni sholas.								
		Block No. 1, Perumalmalai.								
		Block No. 2, Serathan kanal.								

Area of Reserved Forests, 1890-91—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1890. Acres.	Area on 1st April 1890. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1891. Acres.	Area on 31st March 1891. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Madura.	No. II or Palni Hill Range—*cont.*	*Upper Palni sholas*—cont.								
		Block No. 3, Tiger shola.								
		Block No. 4, Kodaikánal.								
		Block No. 5, Gundan and Manavan.								
		Block No. 6, Parappar.								
		Block No. 7, Pannitutam.	2,316	..	..	..	2,316	..	....	
		Block No. 8, Gunden.								
		Block No. 9, Sandanam.								
		Block No. 10, Fort Hamilton.								
		Block No. 11, Mariyan.								
		Upper Palni Plantation								
		Block No. 1, Gundan shola.	..	..	* 224	..	224	..	....	
		Block No. 2, Post office	17	..	..	..	17	..	....	
		Block No. 3, Poombarai.	6	..	..	..	6	..	....	
		Sengattampatti ..	4,480	..	..	* 2,880	1,600	..	....	
		Kadavakurichi ..	5,120	..	..	* 1,920	3,200	..	....	
		Budagudimalai ..	1,600	..	..	* 480	1,120	..	....	
		Poolamalai	..	..	800	..	800	..	G.O., 10th Feb., Nos. 91 and 91-A Rev.	
	No. III or Dindigul.	*Kanavaipatti.*								
		Block No. 1, Kuppuravalli kutta.	2,560	..	..	* 640	1,920	..	....	
		Block No. 3, Akkamakaradu.	1,600	..	..	..	1,600	..	....	
		Block No. 4, Tenkal.	3,200	..	..	* 1,280	1,920	..	....	
		Mudimalai	6,086	..	..	* 1,651	4,435	..	....	
		Aiyalur.								
		Block No. 1, Pilliyarnattam.	..	..	* 5,485	..	5,485	..	....	
		Block No. 3, Tannirkaradu.	1,920	..	..	..	1,920	..	....	
		Block No. 4, Sundamalai.	2,240	..	..	* 320	1,920	..	....	
		Sirumalai.								
		Block No. 1, Sirumalai.	25,530	..	* 70	..	25,600	..	....	* The result of measurements taken from the 1 inch taluk maps supplied only recently by the Madras Survey Department, the areas in former years having been only roughly estimated in the absence of such maps.
		Vikkaramangalam ..	10,240	..	..	* 6,451	3,789	..	....	
	No. IV or Alagar Hill.	*Alagar Hill.*								
		Block No. 1, Alagar Hill.	17,510	..	..	* 672	16,838	..	....	
		Perumalai	..	..	9,600	..	9,600	..	G.O., Nos. 422, 422-A, 9th July.	
		Sembulimalai ..	..	..	1,600	..	1,600	..	G.O., Nos. 311, 311-A, 5th May.	
		Mottaimalai	..	..	800	..	800	..	G.O., Nos. 91, 91-A Rev.; 10th February 1891.	
		Total ..	222,868	348·23	37,247	17,486	242,629	379·11		

Area of Reserved Forests, 1890-91—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1890. Acres.	Area on 1st April 1890. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1891. Acres.	Area on 31st March 1891. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Tinnevelly.	Nangunéri	Reserve No. I ..	31,533	..	..	..	31,533		....	
		Teak tract	284	..	..	..	284	..	....	
		Block No. I (*a*) ..	..	..	25,999	..	25,999	.	No. 533, 2nd December.	
	Ambásamudram.	Reserve No. II ..	91,008	..	..	..	91,008	.	....	
		Mullimalai	457	..	..	..	457	.	....	
		Kaliyammankoilparai.	309	..	.	..	309	..	....	
		Koviladiparai ..	124	..	..	..	124	..	....	
		Saluparpathai ..	71	..	..	..	71	..	....	
		Block No. II (*a*), (*b*).	..	..	53,819	.	53,819	..	No. 534, 2nd December.	
		Kolundamamalai	..	..	1,540	..	1,540	..	No. 88, 17th February 1890.	
	Tenkási.	Reserve No III. ..	18,010	..	.	..	18,010	..	....	
		Okaninranpathai ..	85	..	.	..	85	..	....	
		Kavulkattiparambu ..	374	..	..	..	374	..	....	
		Kottamalai	860	..	..	.	860	..	....	
		Nalankurichi ..	212	..	..	..	212	..	....	
		Chinnakadu as defined in Mr. Baber's decision on claims of Inamdar.	..	..	2,560	..	2,560	..	No. 248, 17th June.	
	Sankaranainárkoil.	Reserve No. IV ..	19,738	..	.	..	19,738	..	....	
		Chunnambuparambu.	..	..	286	..	286	..	No. 15, 20th January.	
	Srívilliputtur.	Reserve No V ..	23,270	.	..	..	23,270	..	....	
		Unnipattimalai ..	530	.	..	.	530	..	....	
		Sappaniparambu ..	376	..	..	.	376	..	....	
		Pulpattuparambu ..	51	..	..	..	51	..	....	
		Martandamparai ..	135	..	..	..	135	..	....	
		Kottankulam ..	..	..	473	..	473	..	No. 214, 3rd June.	
	Tenkarai.	Pannamparai ..	117	..	..	..	117	..	....	
		Kaliyavur	158	..	.	..	158	..	....	
		Kottamadakikadu ..	1,279	..	..	..	1,279	..	....	
		Kongarayakurichi ..	..	..	60	..	60	..	No. 55, 17th February.	
	Otapidaram.	Virusampatti ..	..	..	294	..	294	..	No. 133, 24th March 1890.	
		Total ..	188,981	295·28	85,031	..	274,012	428·14		
North Malabar.	Chedlet reserved forest.	Kuppadi	7,337	..	..	..	7,337	..	....	
		Kurchiyat	18,054	..	..	..	18,054	..	....	
		Rampur . ..	18,855	..	..	..	18,855	..	....	
	Trans Beni	Nulpoya	3,613	..	..	..	3,613	..	....	
		Mavinhulla	12,577	..	..	..	12,577	..	....	
	Kudrakote and Padri	Begur	15,366	..	..	..	15,366	..	....	
		Adavankunnu ..	..	..	39	..	39	..	No. 22, 10th June.	
		Total ..	75,802	118·44	39	..	75,841	118·50		
South Malabar.	Nilambúr.	Amarampalam ..	468	..	..	..	468	..	....	
		Chathamborai ..	700	..	..	..	700	..	....	
	Amarampalam.	Karimpoya reserve ..	3,955	..	..	..	3,955	..	....	
		Nellikutta do. ..	1,824	..	..	..	1,824	..	....	
		Walayar do. ..	3,017	..	..	..	3,017	..	....	
	Pálghat ..	Chenalnair do. ..	15,203	..	..	..	15,203	..	....	
		Total ..	25,167	39·32	..	..	25,167	39·32		
South Canara.	Coondapoor.	No. I, Sabladi ..	208	..	..	..	208	..	....	
	Udipi ..	,, II, Ajjarkadu.	160	..	..	..	160	..	....	
		,, III, Pilarkan..	320	..	..	..	320	..	....	
		,, VIII, Chinkramalle ..	2,560	..	..	..	2,560	..	....	
		,, VI, Manajekadu.	423	..	..	..	423	..	....	
		,, XIV, Durgamale	1,601	..	..	..	1,601	..	....	
		,, XV, Andar reserve.	..	..	22,334	..	22,334	..	G.O., No. 8-F., 15th January.	

Area of Reserved Forests, 1890-91—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1890.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1891.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres	Acres	Acres.	Equivalent in square miles.		
South Canara—*cont.*	Mangalore.	No. VI, Chembuguddc	75	..		..	75	..	....	
		,, VII, Kutiyar .	25	.	..	..	25	..	....	
		Nos V & IV, Poitaji and Kayarpalle.	96	..	..	..	96	.	....	
		No V, Ullal casuarina and honne-plantation	57	.	..	..	57	..	....	
		,, X, Tannirbhavi.	70	..	..	..	70	..	....	
		,, XII, Hosabettu reserve.	376	..	..	..	376	..	....	
		,, XI, Tedar reserve.	..	..	458	..	458	..	G.O., No. 242-F, 23rd September.	
	Upinangadi.	No I, The Shiradi Sisla reserve.	19,200	..	..	..	19,200	..	. ..	
		,, IV, The Bhagimalai	6,400	..	.	..	6,400	..	....	
		Total ..	31,571	49·33	22,792		54,363	84·94		
		Grand Total ..	1,864,759	2,913·68	247,655	17,591	2,094,823	3,273 16		

Abstract.

District	Area on 1st April 1890.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1891.	
	Acres	Equivalent in square miles.	Acres	Acres	Acres.	Equivalent in square miles.
Chingleput	59,862	93·54	21,121	..	80,983	126·54
North Arcot	241,023	376·60	34,164	..	275,187	430·00
South Arcot	76,182	119·03	18,341	105	94,418	147·53
Salem	411,518	643·00	26,325	..	437,843	684·13
Trichinopoly	87,708	137·05	.2,595	..	90,303	141·09
Tanjore	5,852	9·14	..	..	5,852	9·14
North Coimbatore	75,964	118·69	..	..	75,964	118·69
South Coimbatore	362,261	566·03	..	..	362,261	566·03
Madura	222,868	348·23	37,247	17,486	242,629	379·11
Tinnevelly	188,981	295·28	85,031	..	274,012	428·14
North Malabar	75,802	118·44	39	..	75,841	118·50
South Malabar	25,167	39 32	..	..	25,167	39·32
South Canara	31,571	49·33	22,792	..	54,363	84·94
Total ..	1,864,759	2,913·68	247,655	17,591	2,094,823	3,273·16

ANNUAL FORM No. 59.

Forest Department, Madras, Southern Circle.

AREA of Reserved Lands, 1890-91.

District.	Range.	Name of forest.	AREA ON 1ST APRIL 1890. Acres.	Equivalent in square miles.	ADDED DURING THE YEAR. Acres.	EXCLUDED OR TRANSFERRED TO OTHER HEADS Acres.	AREA ON 31ST MARCH 1891 Acres.	Equivalent in square miles	Number and date of notification of addition or transfer	Remarks.
Chingleput.	Tiruvallúr	Palavakkam	2,511	..	..	..	2,511	..	....	
		Mailapore	930	..	..	930	..	..	....	Transferred to reserved forests.
		Attantangal	268	..	..	..	268	.	....	
		Nayar	300	..	..	..	300	..	....	
		Erumaivettipalaiyam	555	..	..	..	555	..	....	
		Kavalur	240	.	..	..	240	..	. ..	
		Manali	1,485	..	..	..	1,485	..	....	
		Apasamudram ..	..	..	595	..	595	..	No 229, 4th June.	
		Kuruvithittu ..	..	..	300	..	300	..	,, 237, 4th ,,	
		Periyaoblaburam ..	..	..	66	..	66	..	,, 220, 3rd ,,	
		Elavur	.	..	179	..	179	..	,, 234, 4th ,,	
		Chinnaoblaburam ..	..	..	65	..	65	..	,, 228, 4th ,,	
		A. Siruvalipettai ..	..	..	105	..	105	..	,, 230, 4th ,,	
		B. do ..	..	..	54	..	54	..	,, 223, 3rd ,,	
		Vengathai	..	..	312	..	312	..	,, 371, 9th Aug.	
		Budur	..	..	86	..	86	..	,, 378, 9th ,,	
		Siruvadu . ..	..	..	373	..	373	..	,, 385, 9th ,,	
		Nemalur	..	..	980	..	980	..	,, 381, 9th ,,	
	Chingleput.	Amjur . .	1,514	..	..	..	1,514	..	....	
		Nemali	633	..	..	633	..	..	....	Transferred to reserved forests.
		Alapakkam, A. and B.	486	..	..	486	..	..	....	
		Tirumani	639	..	..	..	639	..	....	
		Gúdalúr	2,744	..	..	..	2,744	..	....	
		Senkundram	1,232	..	..	..	1,232	..	....	
		Kolathur *alias* Appur	1,419	..	..	1,419	..	..	....	
		Paranur	378	..	..	378	..	..	....	Transferred to reserved forests.
		Kattankolathur ..	535	..	..	535	.	..	....	
		Kavanur	569	..	..	569	..	..	....	
		Siruvanjur	465	..	..	465	..	..	....	
		Vattambakkam ..	694	..	..	..	694	.	....	
		Vadakkupattu .	795	..	..	795	..	..	....	
		A. Kutrambakkam ..	126	..	..	126	..	..	....	
		B. do. ..	205	..	..	205	..	..	...	
		Pudipper	375	..	..	375	.	..	....	
		Mannur	570	..	..	570	..	..	....	Transferred to reserved forests.
		Nallur . ..	937	..	..	937	..	..	....	
		Maganyam ..	946	..	..	946	..	..	....	
		Kalvayi	138	..	..	138	..	..	....	
		Kolathur	1,909	..	..	1,909	..	..	....	
		Kayar	642	..	..	642	..	..	....	
		Taiyur	1,084	..	..	1,084	..	..	....	
		Mambakkam	766	..	..	..	766	..	....	
		Sonallur	1,107	..	..	1,107	..	..	...	
		Unamanjeri	752	..	..	752	..	..	....	750 transferred to reserved forests and 2 excluded at settlement.
		Kumili	683	..	* 7	..	690	..	....	* Added at settlement.
		Kattur	2,894	..	* 66	..	2,960	..	....	
		Alathur	488	..	..	488	..	..	....	Transferred to reserved forests.
		Illalur	702	..	..	702	..	..	....	692 transferred to reserved forests and 10 excluded at settlement.
		A. Sirukundram ..	872	..	..	† 3	869	..	....	† Excluded at settlement.
		B. do. ..	378	..	..	..	378	..	....	
		Hanumanthaputhori..	284	..	‡ 2	286	..	..	....	‡ Added at settlement. Transferred to reserved forests.
		Melamaiyyur ..	..	..	49	..	49	..	No. 255, 10th June.	
	Saidápet..	Pulikkoradu	176	..	..	176	..	..	....	Transferred to reserved forests.
		Tamburam	262	..	..	262	..	..	....	
		Kadapperi	229	..	..	229	..	..	....	227 transferred to reserved forests and 2 excluded at settlement.
		Selaiyur	492	..	§ 6	498	..	..	....	§ Added at settlement. Transferred to reserved forests.

Area of Reserved Lands, 1890-91—*cont.*

District.	Range.	Name of forest.	Area on 1st April 1890.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1891.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Chingleput—*cont.*	Saidápet—*cont.*	Maduraipakkam ..	359		..	359	..	..	....	351 transferred to reserved forests and 8 excluded at settlement.
		Nanmangalam ..	333	..	..	333	..	..	....	328 transferred to reserved forests and 5 excluded at settlement.
		Madambakkam ..	567	..	..	..	567	..	....	
		Erumaiyur	197	..	..	197	..	..	....	192 transferred to reserved forests and 5 excluded at settlement.
		Arsankalani	187	..	..	2	185	..	....	Excluded at settlement.
		A. Perumbakkam ..	639	..	..	639	..	..	....	636 transferred to reserved forests and 3 excluded at settlement.
		B. do. ..	117	..	..	117	..	..	....	Transferred to reserved forests.
		Meyyur	534	..	..	534	..	..	....	
		Kovilpidagai ..	377	..	..	..	377	..	....	
		Sikkarayapuram ..	100	..	..	100	..	..	....	93 transferred to reserved forests and 7 excluded at settlement.
		Kuttambakkam ..	300	..	..	300	..	..	....	Transferred to reserved forests
		Mittanemalai ..	262	..	* 5	267	..	..	....	* Added at settlement. Transferred to reserved forests.
		Tirumalavayal ..	389	..	..	389	..	..	....	386 transferred to reserved forests and 3 excluded at settlement.
		Nandambakkam ..	262	..	..	262	..	..	....	259 transferred to reserved forests and 3 excluded at settlement.
	Chingleput.	Tirusulam	270	..	..	..	270	..	....	
		Achcharapakkam ..	864	..	..	..	864	..	....	
		Lattur	1,011	..	..	..	1,011	..	....	
		Nedumaram	198	..	..	..	198	..	....	
		Venmani	238	..	..	..	238	..	....	
		Madayambakkam ..	241	..	..	..	241	..	....	
		Sattamai	135	..	..	..	135	..	....	
		Kattugudalur ..	4,273	..	..	..	4,273	..	....	
		Rajupalliem	806	..	..	..	806	..	....	
		Kurumbarai . ..	250	..	..	..	250	..	....	
		Endathur	168	..	..	..	168	..	....	
		Tandalam	1,428	..	..	..	1,428	..	....	
		Sirunallur	503	..	..	..	503	..	....	
		Kannimangalam ..	142	..	..	..	142	..	....	
		Nariamputtur ..	326	..	..	..	326	..	....	
		Karukoli	600	..	..	..	600	..	....	
		Kadalamangalam ..	731	..	..	..	731	..	....	
		Vadatanur	1,078	..	..	..	1,078	..	....	
		Vinayaganallur ..	127	..	..	..	127	..	....	
		Kunamkolattur ..	106	..	..	..	106	..	....	
		Bopanallur	538	..	..	..	538	..	....	
		Muthukadu	86	..	..	..	86	..	....	
		Total ..	54,181	84·66	3,250	21,174	36,257	56·65		
North Arcot	Chittoor.	Veerasettipalle ..	7,587	..	..	..	7,587	..	....	
		Chittapara	4,850	..	..	..	4,850	..	....	
		Basavapalle	2,027	..	..	..	2,027	..	....	
		Mahimandalam ..	2,522	..	..	..	2,522	..	....	
		Irala	16,130	..	..	..	16,130	..	....	
		Santapet ..	2,276	..	..	..	2,276	..	....	
		Chittoor	360	..	..	..	360	..	....	
		Kinatipallo	1,417	..	..	1,417	..	..	....	Transferred to reserved forests.
		Chillapalli	1,296	..	..	1,296	..	..	....	
		Penamur	6,400	..	..	6,400	..	..	....	

Area of Reserved Lands, 1890-91—*cont.*

District.	Range.	Name of forest.	Area on 1st April 1890. Acres.	Area on 1st April 1890. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1891. Acres.	Area on 31st March 1891. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
North Arcot—*cont.*	Chandragiri.	Mamandúr extension..	8,000	..	..	8,000	..	..	....	Transferred to reserved forests.
		Tirupati hill	16,000	..	..	16,000	..	..	....	
		Nagaputla	8,320	..	..	..	8,320	..	.. ..	
		Mungilpattu	23,040	..	..	..	23,040	..	.. ..	
	Palmanér.	Charugal	19,200	..	..	..	19,200	..	....	
		Pedunaig drug ..	12,800	..	..	..	12,800	..	....	
		Panamadangi ..	9,600	..	..	..	9,600	..	....	
		Paradurami extension.	2,500	..	..	..	2,500	..	....	
		Sinnagunta	6,400	..	..	..	6,400	..	....	
	Gudiyatam.	Naickanari extension.	1,280	..	..	..	1,280	..	....	
		Mordana do. ..	9,600	..	..	..	9,600	..	....	
		Gundalapalli	8,420	..	..	..	8,420	..	....	
		Pallalakuppam ..	6,212	..	..	..	6,212	..	....	
		Karapattu	8,388	..	..	..	8,388	..	....	
		Ambúr extension ..	25,600	..	..	..	25,600	..	....	
		Arasampet	18,000	..	..	..	18,000	..	....	
	Vellore ..	Athiyur	*4,880	..	..	..	4,880	..	No. 388, 26th August.	*Portions of Javadi hill block, Arasampet Naikineri.
		Vellakal	*5,280	..	..	..	5,280	..	No. 390, 26th August.	
		Kelúr	3,537	..	..	..	3,537	..	....	
		Alliyalamangalam ..	10,062	..	..	..	10,062	..	....	
	Pólúr ..	Kapalur	1,267	..	..	..	1,267	..	....	
		Malayalam	12,800	..	..	..	12,800	..	....	
		Santavasal	8,500	..	..	..	8,500	..	....	
		Mulakadu	17,000	..	..	..	17,000	..	....	
		Sátúr	1,048	..	..	..	1,048	..	....	
	Arcot ..	Enadivadi	1,567	..	..	..	1,567	..	....	
		Thandappatangal ..	1,112	..	..	..	1,112	..	....	
		Shólavaram	1,232	..	..	..	1,232	..	....	
		Amúr	6,020	..	..	..	6,020	..	....	
	Wallajah.	Kolatúr	1,779	..	..	..	1,779	..	....	
		Minnel	1,378	..	..	..	1,378	..	....	
		Banavaram	1,051	..	..	1,051	..	..	....	Transferred to reserved forests.
		Vengunam	1,288	..	..	..	1,288	..	....	
		Ponnur	939	..	..	..	939	..	....	
		Badur	873	..	..	..	873	..	....	
	Wandiwash.	Mambedu	720	..	..	..	720	..	....	
		Kodiyalam	125	..	..	..	125	..	....	
		Nedungunam	1,797	..	..	..	1,797	..	....	
		Vishamangalam ..	1,148	..	..	..	1,148	..	....	
		Nedungal	3,645	..	..	..	3,645	..	....	
		Lands reserved under Rule 2, section 26 of the Forest Act.								
	Vellore ..	Javadi hill block. Arasampet and Naickaneri.	†10,240	..	..	..	10,240	..	....	†The difference as compared with last year's closing balance is due to portions appearing elsewhere designated Attiyur and Vellakal blocks.
	Chandragiri.	Balapalle	40,640	..	..	..	40,640	..	....	
	Wallajah.	Vadantangal	64	..	..	..	64	..	....	
		Balakrishnapuram ..	63	..	..	..	63	..	....	
		Kattupakkam ..	145	..	..	..	145	..	....	
		Ayal	16	..	..	..	16	..	....	
		Banavaram	35	..	..	..	35	..	....	
		Head Assistant Collector's office compound, Arkónam.	4	..	..	..	4	..	....	
		Total ..	368,480	575·75	..	34,164	334,316	522·37		
South Arcot.	No. I Range, Tiruvannámalai.	Valasamalai	12,738	..	..	..	12,738	..		
		Tenmalai	50,428	..	..	..	50,428	..		
		Polamaradur	9,148	..	..	..	9,148	..		
		Nallapattu	6,748	..	..	..	6,748	..		
		Paramanandel ..	..	..	1,800	..	1,800	..		
		Ravandavadi ..	..	..	13,333	..	13,333	..		
		Ponniar	..	..	50,000	..	50,000	..	No. 540, 9th December.	
		Nattampalle	..	..	7,333	..	7,333	..		
		Radapuram	..	..	7,000	..	7,000	..		
		Kannamadai	..	..	7,000	..	7,000	..		
		Peradikuppam ..	729	..	..	729	..	..		Transferred to reserved forests.
		Padipallam	4,394	..	..	..	4,394	..		
	No. II Range, Tindivanam.	Pakkam	14,894	..	..	..	14,894	..		
		Kurumpuram, 1st bit.	556	..	..	..	556	..		
		Panchalam	1,190	..	..	1,190	..	..		1,190 transferred to reserved forests and 70 cut off at settlement.
		Akkur	1,350	..	..	1,350	..	..		Transferred to reserved forests.
		Naduvandur	2,800	..	..	..	2,800	..		

Area of Reserved Lands, 1890-91—*cont.*

District.	Range.	Name of forest.	Area on 1st April 1890.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1891.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
South Arcot—*cont.*	No. III Range, Villupuram.	Panampattu	851	..	..	..	851	..	....	
		Valudareddi	384	..	..	..	384	..	....	
		Kappiyampilyur ..	812	..	..	..	812	..	....	
		Gangurampaliyam ..	512	..	..	..	512	..	....	
		Vakkur	384	..	.	384	..	..	....	Transferred to reserved forests.
		Vikkaravandi.. ..	256	..	..	256	..	..	....	Transferred to reserved forests.
		Melkondai	480	..	..	..	480	..	....	
		Settanur, 1st bit ..	204	..	..	204	..	..	....	Transferred to reserved forests.
		Narasinganur ..	428	..	..	428	..	..	....	Transferred to reserved forests.
		Kundalapiliyur ..	940	..	..	940	.	..	....	Transferred to reserved forests.
		Karanai	128	..	..	128	..	..	....	Transferred to reserved forests.
		Sattanur, 2nd bit ..	320	..	..	..	320	..	....	
		Ariyálúr . ..	1,036	..	.	1,036	.	..	....	Transferred to reserved forests.
		Turinjikadu	853	..	..	..	853	..	....	
		Pulanjimalai	853	..	..	..	853	..	....	
		Tandavasamudram ..	2,112	..	..	..	2,112	..	....	
		Ramapuram	1,868	..	..	..	1,868	..	....	
		Vellakarai	1,568	..	..	1,568	..	..	....	Transferred to reserved forests.
		Valudalampatti ..	908	..	..	908	..	..	....	Transferred to reserved forests.
		Sillambanadampatti..	780	..	..	..	780	..	....	
		Vegakollai	480	..	..	480	..	..	....	Transferred to reserved forests.
		Vadakottu	3,084	..	..	3,084	..	..	....	Transferred to reserved forests.
		Veludiyampatti ..	1,536	..	..	1,536	..	..	....	Transferred to reserved forests.
		Peramathur	1,036	..	..	.	1,036	..	....	
	No. IV Range, Cuddalore.	Kanjiruppu, 1st bit ..	2,956	..	.	2,956	..	..	....	Transferred to reserved forests.
		Do. 2nd bit ..	2,519	..	..	..	2,519	..	....	
		Velankuppam ..	1,094	..	..	1,094	..	..	....	Transferred to reserved forests.
		Talankadu	217	..	..	..	217	..	....	
		Fort St. David ..	25	..	* 19	..	44	..	....	* By actual survey.
		Shonankuppam ..	140	..	..	140	..	..	....	Transferred to reserved forests.
		Doni Durai	192	..	..	..	192	..	....	
		Nochikadu	640	..	..	..	640	..	....	
		Periyakuppam ..	1,683	..	.	..	1,683	..	....	
	No. IV Range, Chidambaram	Periyapattu	..	..	1,145	..	1,145	..		
		Killai	..	..	1,220	..	1,220	..	No. 542, 9th December.	
		Pichavaram	..	..	2,515	..	2,515	..		
		Wállajáh	..	..	2,820	..	2,820	..		
		Nayanur	2,034	..	† 270	..	2,304	..	....	† By recomputation.
		Adukkam	2,169	..	.	‡ 169	2,000	..	....	‡ Excluded at settlement.
		Attipakam	4,800	..	..	..	4,800	..	....	
		Saminalai, 1st bit ..	4,641	..	..	..	4,641	..	....	
		Do. 2nd bit ..	5,580	..	..	..	5,580	..	....	
		Nattanur, 1st bit ..	4,761	..	† 29	‡ 290	4,500	..	....	
	No. V Range, Tirukoilúr.	Do 2nd bit ..	4,000	..	..	† 29	3,971	..	....	
		Sidevi	4,243	..	..	..	4,243	..	....	
		Alwarmalai	8,950	..	.	..	8,950	..	....	
		Sirupakam	1,228	..	..	..	1,228	..	....	
		Edakal	3,742	..	..	† 119	3,623	..	....	
		Kutadi	1,766	..	..	‡ 66	1,700	..	....	
		Pandur	1,000	..	† 119	‡ 164	955	..	....	
		Volur	1,804	..	.	‡ 134	1,670	..	....	
		Perichanur	928	..	..	..	928	..	....	
	No. VI Range, Kallakurchi.	Takarai	..	..	15,400	..	15,400	..	No. 224, 10th June.	
		Kanai	..	..	2,222	..	2,222	..		
		Pavunjipattu.. ..	..	..	4,500	..	4,500	..		
		Rangappanur	..	..	2,560	.	2,560	..		
		Mallapuram	..	..	1,025	..	1,025	..		
		Kanankadu	..	..	3,520	..	3,520	..		
		Kottalammalai ..	..	..	2,880	..	2,880	..		
	No. VII Range, Vriddhachalam.	Kristnapuram ..	..	..	6,150	..	6,150	..	No. 641, 9th December.	
		Nangur	..	..	1,630	..	1,630	..		
		Veppur	..	..	3,970	..	3,970	..		
		Kottanur	..	..	4,100	..	4,100	..		
		Narasinganur ..	..	..	850	..	850	..		
		Karmangudi	..	..	1,170	..	1,170	..		
		Parur	..	..	3,000	..	3,000	..		
		Sanakottai	..	..	6,270	..	6,270	..		
		Ammeri	..	..	1,350	..	1,350	..		
		Kuppanattam ..	..	..	850	..	850	..		
		Kattumayilur ..	..	..	1,600	..	1,600	..		

Area of Reserved Lands, 1890–91—*cont.*

District.	Range.	Name of forest.	Area on 1st April 1890. Acres.	Area on 1st April 1890. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1891. Acres.	Area on 31st March 1891. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
		Lands reserved under Rule 2, section 26 of the Forest Act.								
South Arcot—*cont.*	No. I Range, Tiruvannámalai.	Melchengam	2,000	..	..	..	2,000	..	....	
		Pinjur	8,640	..	..	..	8,640	..	....	
		Munnurmangalam ..	4,160	..	..	..	4,160	..	....	
		Eraiyurmalai ..	7,125	..	..	..	7,125	..	....	
		Uchimalai	3,500	..	..	..	3,500	..	....	
		Pumalai	3,200	..	..	..	3,200	..	....	
		Rayandapuram ..	7,000	..	..	..	7,000	..	....	
		Sennyampettai ..	3,720	..	..	..	3,720	..	....	
		Kanji	3,040	..	..	..	3,040	..	....	
		Gengampattu ..	1,920	..	..	..	1,920	..	....	
		Sorakolattur	7,600	..	..	..	7,600	..	....	
		Devanandal	2,000	..	..	..	2,000	..	....	
		Kodambai	2,000	..	..	..	2,000	..	....	
		Tachampattu ..	2,300	..	..	..	2,300	..	....	
	No. IV Range, Cuddalore.	Siruvattur	212	..	..	..	212	..	....	
		Ranganadapuram ..	620	..	..	..	620	..	....	
		Puvamkuppam ..	640	..	..	..	640	..	....	
		Adivarahanallur ..	1,860	..	..	..	1,860	..	....	
	No. IV Range, Chidambaram.	Nisingan	800	..	..	..	800	..	....	
		Rampakkam	635	..	..	..	635	..	....	
		Kondapuram	972	..	..	..	972	..	....	
		Kolakkudi	659	..	..	..	659	..	....	
	No. V Range, Tirukoilúr.	Velandai	1,200	..	..	..	1,200	..	....	
		Sengamedu	755	..	..	..	755	..	....	
		Sittamur	1,510	..	..	..	1,510	..	....	
		Odiattur	1,696	..	..	..	1,696	..	....	
		Emappur	340	..	..	..	340	..	....	
		Mambakkam ..	480	..	..	..	480	..	....	
		Elandurai	307	..	..	..	307	..	....	
		Tiruvannanallur ..	240	..	..	..	240	..	....	
		Kalamarudur	1,350	..	..	..	1,350	..	....	
		Kunjaram	5,090	..	..	..	5,090	..	....	
		Pachapalaiyam ..	1,600	..	..	..	1,600	..	....	
		Kallamedu	1,235	..	..	..	1,235	..	....	
		Rishivendiem ..	..	..	5,200	..	5,200	..	Bd.'s Proogs., Forest No. 196 of 14th April.	
	No. VI Range, Kallakurchi.	Sittalur	..	..	1,000	..	1,000	..	Bd.'s Proogs., Forest No. 196 of 14th April.	
		Porasakurchi ..	..	..	950	..	950	..	Bd.'s Proogs., Forest No. 196 of 14th April.	
		Varanjaram	..	..	900	..	900	..	Bd.'s Proogs., Forest No. 196 of 14th April.	
		Magarur	..	..	1,440	..	1,440	..	Bd.'s Proogs., Forest No. 196 of 14th April.	
		Periyanisalur ..	720	..	..	..	720	..	....	
		Ivadagudi	650	..	..	..	650	..	....	
		Sattiyam	416	..	..	..	416	..	....	
	No. VII Range, Vriddhachalam.	Vriddhachalam tank.	192	..	..	..	192	..	....	
		Kannapuram ..	1,800	..	..	..	1,800	..	....	
		Narimanam	640	..	..	..	640	..	....	
		Periyakurichi ..	360	..	..	..	360	..	....	
		Velankulam	1,390	..	..	..	1,390	..	....	
		Kattiyanallur ..	960	..	..	..	960	..	....	
		Total ..	275,434	430·37	167,140	19,382	423,192	661·24		
Salem ..	Atúr ..	Pattimedu	3,046	..	..	..	3,046	..	....	
		Nagalur	6,138	..	..	..	6,138	..	....	
		Thumbal	3,680	..	..	..	3,680	..	....	
		Mannur	4,000	..	..	..	4,000	..	....	
		Pattimedu extension.	1,200	..	..	..	1,200	..	....	
		Thumbal extension ..	4,800	..	..	..	4,800	..	....	
		Iadayagounden slope.	..	..	11,220	..	11,220	..	No. 162, 15th April.	
		Gangavalle	..	..	7,040	..	7,040	..	No. 162, 15th April.	
		Varagur extension ..	..	..	500	..	500	..	No. 162, 15th April.	
	Salem ..	Pillapadi	4,992	..	..	..	4,992	..	....	
		Mallapuram ghât ..	2,285	..	..	2,285	..	..	....	Transferred to reserved forests.
		Mallapuram ghât extension .. .	640	..	..	640	..	..	....	Transferred to reserved forests.
		Kurumbapatti extension	10,000	..	..	..	10,000	..	....	
		Vanavasi	9,000	..	..	..	9,000	..	....	
		Ramaswami malai ..	3,000	..	..	..	3,000	..	....	
		Puliyankad	1,000	..	..	1,000	..	..	....	Transferred to reserved forests.
		Arasankad	2,500	..	..	..	2,500	..	....	
		Kaputu	3,500	..	..	..	3,500	..	....	
		Mattikottai	3,500	..	..	3,500	..	..	....	Transferred to reserved forests.

Area of Reserved Lands, 1890–91—*cont.*

District.	Range.	Name of forest.	Area on 1st April 1890. Acres.	Area on 1st April 1890. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1891. Acres.	Area on 31st March 1891. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Salem—*cont.*	Salem—*cont.*	Pungamaduvu ..	2,500	..	..	2,500	..	..	....	Transferred to reserved forests.
		Pudupatti ..	7,500	..	..	..	7,500	..	....	
		Kanjamalai ..	4,500	..	..	4,500	..	..	....	Transferred to reserved forests.
		Nagaramalai ..	1,280	..	..	..	1,280	..	....	
		Mary Land ..	400	..	..	400	..	..	....	Transferred to reserved forests.
		Saniyasimalai ..	600		..	..	600	..	....	
		Yelattur ..	2,000	..	..	..	2,000	..	No. 162, 15th April..	
		Kudimaduvu ..	4,307	..	..	..	4,307	..		
		Ammapalayam ..	9,216	..	..	..	9,216	..	....	
		Konramalai extension.	4,000	..	..	..	4,000	..	....	
		Mukanur	8,000	..	..	..	8,000	..	....	
	Uttenkarai.	Thombakal extension.	..	..	3,840	..	3,840	..		
		Nochikuttai ..	7,917	..	..	..	7,917	..		
		Kalnad	4,320	..	..	..	4,320	..	No. 161, 15th April.	
		Chitteri extension .	..	..	2,880	..	2,880	..		
		Veppambatti ..	8,640	..	..	..	8,640	..		
		Thirthamalai ..	11,046	..	..	..	11,046	..		
	Tirupatúr.	Vellakuttai ..	1,152	..	..	..	1,152	..	....	
	Uttenkarai and Tirupatúr.	Govindapuram ..	3,104	..	..	* 404	2,700	..	No. 161, 15th April.	* Due to rectification.
	Tirupatúr & Krishnagiri.	Nandibanda	2,500	..	..	..	2,500	..	....	
	Hosúr ..	Galigattam	..	..	6,080	..	6,080	..	No. 158, 15th April.	
		Kestur extension ..	..	..	3,600	..	3,600	..		
		Thalli extension ..	..	..	4,320	..	4,320	..		
	Dharmapuri.	Kesaraguli	6,406	..	..	..	6,400	..	....	
		Picklymalai	6,400	..	..	..	6,400	..	....	
		Masakal	9,600	..	..	..	9,600	..	....	
		Bianurmalai . ..	11,500	..	..	11,500	..	..	....	Transferred to reserved forests.
		Bathanavadi	27,000	..	..	..	27,000	..	....	
		Perumbalai	12,000	..	..	..	12,000	..	....	
		Kolapambadi ..	9,500	..	..	..	9,500	..	.. .	
		Thoppur	7,000	..	..	..	7,000	..	....	
		Maharajgudai ..	10,304	..	..	..	10,304	..	....	
		Neralkota	7,040	..	..	..	7,040	..	....	
	Krishnagiri.	Maharajgudai extension.	..	..	2,660	..	2,660	..	No.489, 11th Nov.	
		Varatanapalli ..	..	..	2,216	..	2,216	..	No. 158, 15th April.	
		Thattakal	..	..	857	..	857	..		
	Tiruchengód.	Suriyamalai	5,000	..	..	..	5,000	..	....	
		Lands reserved under Rule 2, section 26 of the Forest Act.								
	Salem ..	Velampatti	3,500	..	..	..	3,500	..	....	
		Kurichi	2,300	..	..	..	2,300	..	....	
		Mallur	5,000	..	..	..	5,000	..	....	
	Uttenkarai.	Karungal	4,320	..	..	..	4,320	..	....	
		Uttonkarai, new ..	3,200	..	..	..	3,200	..	....	
		Wonnagiri	2,944	..	..	..	2,944	..	....	
		Kallavi	4,160	..	..	.	4,160	..	....	
		Poyyapatti	3,488	..	..	..	3,488	..	....	
		Morappur	4,000	..	..	..	4,000	..	....	
		Harur, new	1,901	..	..	..	1,901	..	....	
		Kaladipatti	2,912	..	..	..	2,912	..	....	
		Thenkaraikotta ..	2,368	..	..	..	2,368	..	....	
		Kouramalai	8,512	..	..	..	8,512	..	....	
	Tirupatúr.	Kothanur	7,257	..	..	..	7,257	..	....	
		Garagamandi ..	1,280	..	..	..	1,280	..	....	
		Madagathur	3,200	..	..	..	3,200	..	....	
		Andiappanur ..	4,704	..	..	..	4,704	..	....	
	Hosúr ..	Hulibanda	7,360	..	..	..	7,360	..	....	
		Pani	5,856	..	..	..	5,856	..	....	
		Kundukotta	4,768	..	..	..	4,768	..	....	
		Sivanhalli .. .	4,992	..	..	..	4,992	..	....	
		Total ..	346,029	540·67	45,113	26,729	364,413	569·40		
Trichinopoly.	Trichinopoly.	Ettarai	483	..	..	..	483	..	....	
		Adavatur, No. I ..	370	..	..	..	370	..	....	
		Do. ,, II ..	331	..	..	..	331	..	....	
		Velur .. .	382	..	..	..	382	..	....	
		Kotrapatti	211	..	..	..	211	..	....	
		Natarajapuram ..	109	..	..	..	109	..	....	
		Alandur	149	..	..	..	149	..	....	
		Adavatur	144	..	..	..	144	..	....	
		Punganúr	281	..	..	..	281	..	....	

Area of Reserved Lands, 1890-91—*cont.*

District.	Range.	Name of forest.	Area on 1st April 1890. Acres.	Area on 1st April 1890. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1891. Acres.	Area on 31st March 1891. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Trichinopoly—*cont.*	Kulitalai.	Shemmalai, No. II ..	1,593	..	..	1,593	..	..	....	Transferred to reserved forests.
		Marudur	180	..	..	180	..	..	....	
		Mayanur	50	..	..	50	..	..	....	
		Pudúr	143	..	..	..	143	..	....	
		Sokkonam	119	..	..	..	119	..	....	
		Mahadanapuram ..	191	..	..	..	191	..	....	
		Pillapalaiyam ..	11	..	..	..	11	..	....	
		Vengampatti ..	103	..	..	..	103	..	....	
		Panjantangi hill valley.	262	..	..	..	262	..	....	
		Segam karadu ..	714	..	..	714	..	..	....	Transferred to reserved forests.
		Karuppar Reddipatti hill.	4,112	..	..	..	4,112	..	....	
	Musiri ..	Omandur	321	..	..	..	321	..	....	
		Tolayanatham and Kotharapatti.	333	..	..	..	333	..	....	
		Tirutalaiyur ..	125	..	..	..	125	..	....	
		Yedumalai	959	..	..	..	959	..	....	
		Vellakalpatti ..	1,224	..	..	..	1,224	..	....	
		Pulivalam	522	..	..	..	522	..	....	
		Mavalipatti ..	1,010	..	..	..	1,010	..	....	
		Visalatchiammal samudram.	138	..	..	..	138	..	....	
		Manmalai, Kanjurmalai and Uduvampattimalai.	3,000	..	..	..	3,000	..	....	
		Kanapadi vunnad ..	10,000	..	..	..	10,000	..	....	
		Kunnam	195	..	..	..	195	..	....	
		Kottavasel	167	..	..	..	167	..	....	
		Karaipadi	221	..	..	..	221	..	....	
		Valaiyur Plateau ..	3,000	..	..	..	3,000	..	....	
		Do. slope ..	3,480	..	..	..	3,480	..	....	
		Udumbiyam	500	..	..	..	500	..	....	
		Periyavenmani ..	138	..	..	..	138	..	....	
		Tondapadi	276	..	..	..	276	..	....	
		Anukur	487	..	..	..	487	..	....	
		Malvoy	264	..	..	..	264	..	....	
		Nossiyam	152	..	..	..	152	..	....	
		Puduvettakudi ..	113	..	..	..	113	..	....	
		Kallakudi	123	..	..	..	123	..	....	
		Attiyur	98	..	..	..	98	..	....	
		Veppantatti	213	..	..	..	213	..	....	
		Pasumbalur .. .. Therkukarai ..	149	..	..	..	149	..	....	
		Pasumbalur .. Vadakarai	240	..	..	..	240	..	....	
		Nunne	175	..	..	..	175	..	....	
		Kolattur	116	..	..	..	116	..	....	
		Ogalur	190	..	..	..	190	..	....	
		Sirukudal	166	..	..	..	166	..	....	
	Perambalúr.	Saturbakam	352	..	..	..	352	..	....	
		Kolapuliyur	229	..	..	..	229	..	....	
		Neikuppei, No. I ..	154	..	..	..	154	..	....	
		Do. „ II ..	90	..	..	..	90	..	....	
		Yesanai	113	..	..	..	113	..	....	
		Peramattur	658	..	..	..	658	..	....	
		Mavalingai	260	..	..	..	260	..	....	
		Pulambadi, No. I ..	222	..	..	..	222	..	....	
		Do. „ II ..	645	..	..	..	645	..	....	
		Do. „ III ..	133	..	..	..	133	..	....	
		Visvakudi	150	..	..	..	150	..	....	
		Mattavarai ..	283	..	..	..	283	..	....	
		Ariyur, No. I ..	290	..	..	..	290	..	....	
		Do. „ II ..	140	..	..	..	140	..	....	
		Ladapuram	103	..	..	..	103	..	....	
		Sittalai	404	..	..	..	404	..	....	
		Sinnavadakarai ..	268	..	..	..	268	..	....	
		Nuttapur	175	..	..	..	175	..	....	
		Makurumbalur ..	269	..	..	..	269	..	....	
		Sattanavadi	214	..	..	..	214	..	....	
		Vengalam	361	..	..	..	361	..	....	
		Kalpudi	300	..	..	..	300	..	....	
		Venparur	1,024	..	..	..	1,024	..	....	
		Paravai	150	..	..	..	150	..	....	
		Nerkunam	1,253	..	..	..	1,253	..	....	
		Tevaiyur	253	..	..	..	253	..	....	
		Mettupálaiyam ..	539	..	..	..	539	..	....	
		Elambalur	214	..	..	..	214	..	....	

Area of Reserved Lands, 1890-91—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1890.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1891.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Trichinopoly—*cont.*	Perambalúr—*cont.*	Maravattur	261	..	..	..	261	..	....	
		Kanakasittur	310	..	..	..	310	..	....	
		Peraiyur	856	..	..	..	856	..	....	
		Vennarampundi ..	214	..	..	..	214	..	....	
		Tiruvalandurai ..	197	..	..	..	197	..	....	
		Birmadesam	273	..	..	..	273	..	....	
		Kurumbalur	366	..	..	..	366	..	....	
		Numbakurichi, No. I.	328	..	..	..	328	..	....	
		Do. ,, II.	165	..	..	..	165	..	....	
		Kilarasur	207	..	..	..	207	..	....	
		Kelakkarai	119	..	..	..	119	..	....	
		Yeraiyur and Naduvasal.	562	..	..	..	562	..	....	
		Naduvasal	176	..	..	..	176	..	....	
		Sirumattur	499	..	..	..	499	..	....	
	Udayárpálaiyam.	Jayankondacholapuram, No. I.	150	..	..	..	150	..	....	
		Jayankonda Sholapuram. No. II.	300	..	..	..	300	..	....	
		Vanavanallur ..	200	..	..	..	200	..	....	
		Kodukkur	100	..	..	..	100	..	....	
		Kanguli	800	..	..	..	800	..	....	
		Ayyur	1,400	..	..	..	1,400	..	....	
		Tirukonam	650	..	..	..	650	..	....	
		Pasikulam	100	..	..	..	100	..	....	
		Sittodeyar	54	..	..	..	54	..	....	
		Kulamur	200	..	..	..	200	..	....	
		Periyakurichi ..	150	..	..	..	150	..	....	
		Sattambadi	1,000	..	..	..	1,000	..	....	
		Alavai	300	..	..	..	300	..	....	
		Ambapur	200	..	..	..	200	..	....	
		Ulliakudi	200	..	..	..	200	..	....	
		Sundreswarapuram ..	150	..	..	..	150	..	....	
		Periyavalaiyam ..	1,000	..	..	..	1,000	..	....	
		Vettiyarvettu, Nos. I and II.	650	..	..	..	650	..	....	
		Kovilur	700	..	..	..	700	..	....	
		Mudukulam	1,200	..	..	..	1,200	..	....	
		Velangudi	900	..	..	..	900	..	....	
		Kolamanikkam ..	242	..	..	..	242	..	....	
		Aramanaikkurichi ..	91	..	..	..	91	..	....	
		Karaipakkam ..	83	..	..	..	83	..	....	
		Tiruvenganur, Nos. I to V.	136	..	..	..	136	..	....	
		Varappanakkurichi, Nos. I to VI.	190	..	..	..	190	..	....	
		Sattambadi, Nos. I to XI.	179	..	..	..	179	..	....	
		Sripurandan, Nos. I and II.	434	..	..	..	434	..	....	
		Valakkurichi, Nos. I to III.	48	..	..	48	..	..	.. .	Transferred to reserved forests.
		Annagarampettai, Nos. I to V.	58	..	..	..	58	..	....	Transferred to reserved forests.
		Tennamanallur ..	10	..	..	10	..	..	....	
		Total ..	63,687	99·51	..	2,595	61,092	95·45	....	
Tanjore.	Northern Range.	Vettangudi	1,900	..	..	..	1,900	..	....	
		Elantope	18	..	..	..	18	..	....	
		Talanthondi	100	..	..	..	100	..	....	
		Karpalam	54	..	..	..	54	..	....	
		Kadakkavinayaganellur.	90	..	..	..	90	..	....	
		Ambanar, No. I ..	134	..	..	..	134	..	....	
		Do. ,, II ..	122	..	..	..	122	..	....	
		Kaliyappanallur ..	20	..	..	..	20	..	....	
	Southern Range.	Kodiyakadu Point Calimere.	4,355	..	..	..	4,355	..	....	
		Edangankottai ..	200	..	..	..	200	..	....	
		Perumagalúr ..	13	..	..	..	13	..	....	
		Kolakudi	13	..	..	..	13	..	....	
		Muthukurichi ..	10	..	..	..	10	..	....	
		Anaikadu	10	..	..	..	10	..	....	
		Vattagudi	10	..	..	..	10	..	....	
		Alattur	10	..	..	..	10	..	....	
		Kannugudi, No. I ..	10	..	..	..	10	..	....	
		Do. ,, II ..	266	..	..	..	266	..		

Area of Reserved Lands, 1890–91—*cont.*

District.	Range.	Name of forest.	Area on 1st April 1890. Acres.	Area on 1st April 1890. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1891. Acres.	Area on 31st March 1891. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Tanjore —*cont.*	Southern Range —*cont*	Pambathukadu ..	203	..	..		203	..	....	
		Kathuvani Vakkanathi reserve.	53	..	..	..	53	..	....	
		Nannilam	2	..	..	..	2	..	..	
		Melakadu	331	..	..	..	331	..	....	
		Vendayampatti ..	231	..	..	..	231	..	....	
		Kambayanatham ..	65	..	..	..	65	..	....	
		Kurungulam, No. I.	100	..	..	..	100	..	....	
		Do. „ II..	141	..	..	..	141	..	.. .	
		Tholaraputti	538	..	..	..	538	..	....	
		Pinganmodu	116	..	..	..	116	..	.. ..	
		Vaduvur No. I ..	57	..	..	..	57	..	....	
		Do. „ II ..	94	..	..	..	94	..	.. .	
		Do „ III ..	38	..	..	..	38	..	....	
		Do. „ IV ..	133	..	..	..	133	..	.	
		Do. „ V ..	124	..	..	..	124	..	....	
		Do. „ VI ..	146	..	..	..	146	..	.. .	
		Do. „ VII ..	212	..	..	..	212	..	....	
		Sorapettai	70	.	..	..	70	..	....	
		Ullikottai	130	..	..	..	130	..	....	
		Total ..	10,119	15·81	..	..	10,119	15·81		
North Coimbatore	Satyamangalam.	Talamalai	121,600	..	..	..	121,600	..	....	
		Gutialatur ..	179,200	..	..	..	179,200	..	....	
	Kollegál..	Chickialur	53,760	..	..	..	53,760	..	...	
		Doddasempagai ..	65,920	..	..	..	65,920	..	....	
		Yedaralli and Ponnachy.	476,160	..	..	..	* 476,160	..	Bd 's Pros., 17th January, Forest No. 29.	* Only 293,120 acres notified under section 4.
	Bhavání..	Palamalai	28,160	..	..	..	28,160	..	G.O., No. 96, 12th February.	
		Burgur north and Burgur south.	215,040	..	..	..	215,040	..	....	
	Erode ..	....	27,927	..	..	.	27,927	..	.	
	Karúr ..	....	3,549	..	..	..	3,549	..	....	
		Total ..	1,171,316	1,830·18	..	..	1,171,316	1830·18		
South Coimbatore	Palladam.	Alatur	237	..	..	..	237	..	....	
		Ammapalayam ..	119	..	..	..	119	..	....	
		Arasur . ..	94	..	..	..	94	..	. .	
		Asandlipalayam ..	160	..	..	..	160	..	...	
		Avanáshi	55	..	..	..	55	..	....	
		Ichipatti	639	..	..	..	639	..	....	
		Iduvai	94	..	..	..	94	..	....	
		Ittivirampalayam ..	581	..	..	..	581	..	....	
		Kadirampalayam ..	185	..	..	..	185	..	....	
		Kaduvettipalayam ..	80	..	..	..	80	..	....	
		Kalipalayam	123	..	..	..	123	..	....	
		Kandampalayam ..	92	..	..	..	92	..	....	
		Kaniyampalayam ..	156	..	..	..	156	.	....	
		Kaniyur	813	..	..	..	813	..	....	
		Karadibavi .. .	50	..	..	..	50	..	....	
		Karaipudur	92	..	..	..	92	..	....	
		Karavalur	522	..	..	..	522	..	....	
		Kurumbapalayam ..	299	..	..	..	299	..	....	
		Karumattampatti ..	292	..	..	..	292	..	....	
		Kodangipalayam ..	121	..	..	..	121	..	....	
		Kuppandapalayam ..	69	..	..	..	69	..	....	
		Kuttagam	582	..	..	..	582	..	....	
		Mangarasuvalaiyampalayam	271	..	..	..	271	..	....	
		Moparipalayam ..	163	..	..	..	163	..	....	
		Naranapuram ..	556	..	..	..	556	..	....	
		Narayampalli ..	51	..	..	..	51	..	....	
		Nilambúr	113	..	..	..	113	..	....	
		Papakulam	103	..	..	..	103	..	....	
		Paruvai	76	..	..	..	76	..	....	
		Pattampalaiyam ..	79	..	..	..	79	..	....	
		Perumanallur ..	159	..	..	..	159	..	..	
		Perunkarunaipalayam	53	..	..	..	53	..	....	
		Pudupalaiyam ..	793	..	..	..	793	..	....	
		Pulippar	72	..	..	..	72	..	....	
		Puluvapatti	111	..	..	..	111	..	....	
		Pumalur	291	..	..	..	291	..	....	

Area of Reserved Lands, 1890-91—*cont.*

District.	Range.	Name of forest.	Area on 1st April 1890.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1891.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
South Coimbatore—*cont.*	Palladam—*cont.*	Rakkiyapalaiyam ..	278	..	..	..	278	..	....	
		Samalapuram ..	52	..	..	..	52	..	....	
		Settipalaiyam ..	159	..	..	..	159	..	....	
		Sennoripalayam ..	75	..	..	..	75	..	....	
		Sokkanur ..	132	..	..	..	132	..	....	
		Sokkampalayam ..	479	..	..	..	479	..	....	
		Tandakarampalayam.	83	..	..	..	83	..	....	
		Tattanur	289	..	..	..	289	..	....	
		Tekkalur	389	..	..	..	389	..	....	
		Taranallur ..	82	..	..	..	82	..	....	
		Tulukamuttur ..	60	..	..	..	60	..	....	
		Uppilipalayam ..	99	..	..	..	99	..	....	
		Vadugapalaiyam ..	57	..	..	..	57	..	....	
		Do.	293	..	..	..	293	..	....	
		Vallipuram	52	..	..	..	52	..	....	
		Velampalayam ..	81	..	..	..	81	..	....	
		Do.	75	..	..	..	75	..	....	
		Virapandi	175	..	..	..	175	..	....	
		Total ..	11,256	17·59	..	..	11,256	17·59		
Madura.	No. I or Cumbum valley.	Kombai	6,400	..	..	* 2,560	3,840	..	....	* Decreed in favour of the Zemindar of Tevaram.
		No. I, Vellaikaradu	965	..	..	..	965	..	....	
		,, II, Sonaikaradu.	182	..	..	..	182	..	....	
		,, III, Mottaikaradu.	193	..	..	..	193	..	....	
		,, IV, Kuttaikaradu.	125	..	..	..	125	..	....	
		,, V, Nagarmalaikaradu.	118	..	..	..	118	..	....	
		,, VI, Perumalkovilkaradu.	573	..	..	..	573	..	....	
		,, VII, Sanniyasikovilkaradu.	283	..	..	..	283	..	....	
		Karugal Dhoni Medu.	2,560	..	..	2,560	..	..	....	Acres 1,920 were transferred to reserved forests and the balance struck off as overestimate.
		Adukkam	3,200	..	..	3,200	..	..	....	Transferred to reserved forests.
		Murugamalai ..	3,226	..	† 2,534	..	5,760	..	....	† By computation from survey maps.
		The southern slopes of the Palni hills.	25,600	..	..	† 3,200	22,400	..	....	
		The northern slopes of the Palni hills.	16,000	..	..	16,000	..	..	....	Only 12,800 acres were transferred to 59 A and the balance struck off as overestimate.
	No. II or Palni hill range.	Certain lands on the Lower Palni hills lying outside the limits of certain cultivated lands and cultivable waste.	32,000	..	..	‡ 30,080	1,920		....	‡ No proposals will be made regarding the conversions of these into forest reserves, as they are scattered, isolated open forests, parts of which have been let out for cardamom cultivation on 30 years' lease and with few exceptions of any value.
		Unjalanchi ..	157	..	† 99	256	..	..	....	Transferred to reserved forests.
		Kokkaparai ..	130	..	† 190	320	..	..	....	
		Manjakaraiar ..	1,600	..	..	..	1,600	..	....	
		Vanjankanal ..								
		Alayadikanal ..								
		Chikadikanal ..								
		Koviladikanal ..								
		Kumalarakadu ..								
		Talakodikadu ..								
		Tinnikutukadu ..								
		Periyasholakadu ..								
		Poliyapattimalai ..								
		Elamalai								
		Nodumbaraikadu ..								

Area of Reserved Lands, 1890–91—*cont.*

District.	Range.	Name of forest.	Area on 1st April 1890. Acres.	Area on 1st April 1890. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1891. Acres.	Area on 31st March 1891. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Madura—*cont.*	No. III, Dindigul range.	Karandamalais ..	22,400	..	..	* 3,200	19,200	..	....	* By computation from survey maps.
		Panjantangi hills ..	3,200	..	..		3,200	..	....	
		Pulamalai ..	1,920	..	..	1,920	..	..	....	Only 800 acres were transferred to reserved forests and the rest struck off as overestimate.
		Waguthumalai ..	4,200	..	..	* 360	3,840	..	....	
		Kachaikatti ..	1,694	..	..	* 94	1,600	..	....	
		Kiluvamalai ..	..	..	† 1,920	..	1,920	..	....	† Omission in past year's return now supplied.
	No. IV, Alagar hill range	Perumalai	2,560	..	* 7,040	9,600	..	..	....	Transferred to reserved forests.
		Tiruparangundram ..	960	..	..	..	960	..	....	
		Elephant rock ..	640	..	..	..	640	..	....	
		Ammanamalai ..								
		Mutupattimalai ..	1,600	..	..	..	1,600	..	....	
		Vandiyoor rock ..								
		Nallahavenpatti ..	1,920	..	..	..	1,920	..	....	
		Chembulimalai ..	1,600	..	..	1,600	..	..	....	Transferred to reserved forests.
		Mottamalai	1,280	..	..	1,280	..	..	....	Only 800 acres were transferred to reserved forests and the balance struck off as overestimate.
		Total ..	137,286	214·50	11,783	76,230	72,839	113·81		
Tinnevelly.	Nangunéri.	Block I (*a*) ..	25,999	..	..	25,999	..	..	....	Transferred to reserved forests.
	Ambásamudram.	Do. II (*a*), (*b*) ..	53,819	..	..	53,819	..	..	....	
		Kolundamamalai ..	1,540	..	..	1,540	..	..	....	
	Tenkási.	Block III (*a*), (*b*), (*c*), (*d*).	10,643	..	..	..	10,643	..	....	
		Chinnakadu as defined in Mr. Barber's decision on the claims of inamdar.	2,560	..	..	2,560	..	..	....	Transferred to reserved forests.
	Sankaranainár koil.	Block, IV (*a*) ..	30,714	..	..	..	30,714	..	....	
		Chunambuparambu ..	286	..	..	286	..	..	....	Transferred to reserved forests.
		Sayamalai	294	..	..	..	294	..	....	
	Srivilliputár.	Block, V-(*a*)	40,006	..	..	..	40,006	..	....	
		Kottankulam ..	473	..	..	473	..	..	....	Transferred to reserved forests.
		Valaikulamparambu.	1,120	..	..	..	1,120	..	....	
	Tinnevelly.	Thalaiyuthu ..	890	..	..	..	890	..	....	
		Sivalaperi	263	..	..	..	263	..	....	
	Tenkarai.	Kudiraimalai ..	13,393	..	..	..	13,393	..	....	
		Kongarayakurichi ..	60	..	..	60	..	..	....	Transferred to reserved forests.
		Vallanad hills ..	4,666	..	..	..	4,666	..	....	
	Otapidáram.	Milavittam	709	..	..	..	709	..	....	
		Virusampatti ..	294	..	..	294	..	..	....	Transferred to reserved forests.
		Vaippar	* 813	..	..	..	813	..	....	
		Total ..	188,542	294·60	..	85,031	103,511	161·74		
North Malabar.	Wynaad.	Palepattur	746	..	..	..	746	..	....	
		Vengur	5,470	..	..	..	5,470	..	....	
		Chedlet	517	..	..	..	517	..	....	
		Karpur	753	..	..	..	753	..	....	
		Kalur	213	..	..	..	213	..	....	
		Kudrakote	21,502	..	..	..	21,502	..	....	
		Padri	30,468	..	..	..	30,468	..	....	
		Cardamom forest ..	13,683	..	..	..	13,683	..	....	
		Kanot	25,600	..	..	..	25,600	..	....	
		Chapparam	112	..	..	..	112	..	....	
		Panniyatta	150	..	..	..	150	..	....	
		Adavankunnu ..	39	..	..	39	..	..	....	Transferred to reserved forests.
		Total ..	99,253	155·08	..	39	99,214	155·02		

Area of Reserved Lands, 1890-91—*cont.*

District.	Range.	Name of forest.	Area on 1st April 1890. Acres.	Area on 1st April 1890. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1891. Acres.	Area on 31st March 1891. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
South Malabar.	Nilambúr range.	Nilambúr block ..	5,036	..	..	..	5,036	..	....	Leased.
		Pokote	761	..	..	..	761	..	....	
		Pánangod	859	..	..	..	859	..	....	
		Valluvasheri	914	..	..	..	914	..	....	
		Kanakut	669	..	..	..	669	..	....	
		Erambadam	581	..	..	..	581	..	....	
		Ambelakandi	1	..	..	..	1	..	....	
		Arimbrahutamala ..	322	..	..	..	322	..	....	
		Mangalasheriparamba.	11	..	..	..	11	..	....	
		Puttalatta and Chittarikkal paramba.	8	..	..	..	8	..	....	
	Amarampalam.	The silent valley ..	17,280	..	..	..	17,280	..	....	Leased forest.
		Muriyat	1,765	..	..	..	1,765	..	....	
		Karian	1,002	..	..	..	1,002	..	....	
		The new Amarampalam forest.	96,000	..	..	..	96,000	..	....	
		Chathamkulamkarai paramba.	30	..	..	..	30	..	....	
	Pálghat ..	Thamburattapottai, *alias* Pilacheri Pallam.	100	..	..	..	100	..	....	
		Tiruvashamkunnu *alias* Panakadam.	1,000	..	..	..	1,000	..	....	
	Waluvanád.	Block No. II ..	24,320	..	..	..	24,320	..	....	
		,, ,, III (*a*) ..	12,800	..	..	..	12,800	..	....	
		,, ,, III (*b*), I and III (*b*), II.	4,480	..	..	..	4,480	..	....	
		Block Nos. IV (*a*), IV (*b*) and IV (*c*).	16,640	..	..	..	16,640	..	....	
		Total ..	184,579	288·40	..	..	184,579	288·40		
South Canara.	Coondapoor.	Harkur block	858	..	..	..	858	..	....	Transferred to reserved forests.
		Kasanakatte	262	..	..	..	262	..	....	
		Talabur Ane	640	..	..	..	640	..	....	
		Gundaborpare ..	3,200	..	..	..	3,200	..	....	
		Jennal Ane	1,280	..	..	..	1,280	..	....	
		Korakoppadahola ..	640	..	..	..	640	..	....	
	Udipi ..	Tenkahola	2,039	..	..	..	2,039	..	....	
		Andar reserve ..	22,334	..	..	22,334	..	..	....	
	Mangalore.	Todar reserve ..	458	..	..	458	..	..	....	
		Muji Malai	3,200	..	..	..	3,200	..	....	
	Uppinangádi.	Dharmastal Mundoji.	9,600	..	..	..	9,600	..	....	
		Charmadi Kanapadi.	12,800	..	..	..	12,800	..	....	
	Kasaragód	Parappa	7,680	..	..	..	7,680	..	....	
		Lands reserved under Rule 2, section 26 of the Forest Act.								
	Udipi ..	....	73,443	..	..	..	73,443	..	....	
	Coondapoor.	....	136,058	..	* 1,062	..	137,120	..	....	* Due to rectification of area.
	Mangalore.	....	27,693	..	..	..	27,693	..	....	
	Uppinangádi.	....	288,000	..	..	..	288,000	..	....	
	Kasaragód	....	32,920	..	..	..	32,920	..	....	
		Total	623,105	973·60	1,062	22,792	601,375	939·65		
		Grand Total ..	3,533,267	5,520·72	228,348	288,136	3,473,479	5,427·31		

ABSTRACT.

Chinglepnt	54,181	84·66	3,250	21,174	36,257	56·65	
North Arcot	368,480	575·75	..	34,164	334,316	522·37	
South Arcot	275,431	430·37	167,140	19,382	423,192	661·24	
Salem	346,029	540·67	45,113	26,729	364,413	569·40	
Trichinopoly	63,687	99·51	..	2,595	61,092	95·45	
Tanjore	10,119	15·81	..	..	10,119	15·81	
North Coimbatore	1,171,316	1,830·18	..	..	1,171,316	1,830·18	
South Coimbatore	11,256	17·59	..	..	11,256	17·59	
Madura	137,286	214·50	11,783	76,230	72,839	113·81	
Tinnevelly	188,542	294·60	..	85,031	103,511	161·74	
North Malabar	99,253	155·08	..	39	99,214	155·02	
South Malabar	184,579	288·40	..	..	184,579	288·40	
South Canara	623,105	973·60	1,062	22,792	601,375	939·65	
Total ..	3,533,267	5,520·72	228,348	288,136	3,473,479	5,427·31	

ANNUAL FORM No. 59.

Forest Department, Madras, Southern Circle.

AREA of Other Forests, 1890–91.

District.	Range.	AREA ON 1ST APRIL 1890. Acres	AREA ON 1ST APRIL 1890. Equivalent in square miles.	ADDED DURING THE YEAR. Acres.	EXCLUDED OR TRANSFERRED TO OTHER HEADS. Acres.	AREA ON 31ST MARCH 1891. Acres.	AREA ON 31ST MARCH 1891. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Chingleput ..	Saidápet	488				..	..	..	
	Chingleput	10,619	..	..	* 2,963	11,023	..	..	* Transferred to reserved lands.
	Tiruvallúr	1,342				..	..	..	
		4,605				3,068	..	..	
	Total ..	17,054	26·65	..	2,963	14,091	22·02		
North Arcot.	....	..	..	..	..	..	..	..	
South Arcot.	No I, Tiruvannámalai.	86,466				..	..	..	
	,, II, Tindivanam.	12,500				12,500	..	..	
	,, III, Villupuram.	6,000				6,000	..	..	
	,, IV, Chidambaram.	7,700				..	..	..	
	,, VI, Kallakurichi	68,000	..	..	† 166,703	26,402	..	..	† Transferred to reserved lands.
	,, VII, Vriddhachalam.	30,940				..	..	..	
	Area originally intended to be constituted village forests.	120,320				120,320	..	..	
	Total ..	331,926	518·63	..	166,703	165,223	258·16		
Salem ..	Atúr	33,880	..	..	18,760	15,120	..	..	
	Tirupatúr	28,515	..	..	2,456	26,059	..	..	
	Námakál	17,500	..	..	..	17,500	..	..	
	Utankarai	41,120	..	..	21,600	19,520	..	..	
	Krishnagiri	15,376	..	2,560	5,633	12,303	..	..	
	Hosúr	69,920	..	..	14,000	55,920	..	..	
	Total ..	206,311	322·36	2,560	‡ 62,449	146,422	228·78		‡ 45,113 transferred to reserved lands and 17,336 excluded.
Trichinopoly	Trichinopoly ..	2,681	..	..	..	2,681	..	..	
	Udayárpalaiyam ..	3,917	..	..	..	3,917	..	..	
	Kulitalai	5,837	..	..	..	5,837	..	..	
	Musiri	13,485	..	..	..	13,485	..	..	
	Perambalúr	678	..	..	..	678	..	..	
	Total ..	26,598	41·56	..	..	26,598	41·56		
Tanjore.	Southern Range ..	6,081	..	..	..	6,081	..	..	
	To be proposed for notification under section 4.	20,485	..	..	..	20,485	..	..	
	Total ..	26,566	41·50	..	..	26,566	41·50		
North Coimbatore.	....	..	..	..	..	..	..	..	
South Coimbatore.	Udamalpet	654	..	..	..	654	..	..	
	Pollachi	121	..	..	..	121	..	..	
	Palladam	473	..	..	..	473	..	..	
	Bolampatti	64	..	..	..	64	..	..	
	Total ..	1,312	2·05	..	..	1,312	2·05		

Area of Other Forests, 1890-91—*cont.*

Districts.	Range.	Area on 1st April 1890. Acres.	Area on 1st April 1890. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres	Area on 31st March 1891. Acres.	Area on 31st March 1891. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Madura.	No. I, Cumbum valley.	22,867	..	15,226	5,607	32,486	..	..	
	,, II, Palni hill ..	32,000	..	57,600	..	89,600	..	..	
	,, III, Dindigul ..	14,210		28,616	..	42,826	..	..	
	,, IV, Alagar hill ..	18,291	..	15,303	10,060	23,534	..	..	
	Total ..	87,368	136·51	116,745	* 15,667	188,446	294 45		* Excluded.
Tinnevelly.	Tenkurai	1,133	..	..	..	1,133	..	..	
	Nángunéri	9,691	..	..	..	9,691	..	..	
	Total ..	10,824	16·91	..		10,824	16·91		
North Malabar.	Wynaad . .	214,400	335·00	..	..	214,400	335·00	..	
South Malabar.	Pálghat	150	23	..	† 61	89	·14	..	† Made over to one Subramonia Pattar for agricultural purpose.
South Canara.	....	..	..	..	..	..	..	..	
	Grand Total ..	922,509	1441·40	119,305	247,843	793,971	1,240·57		

Abstract.

District.	Area on 1st April 1890 Acres.	Area on 1st April 1890 Equivalent in square miles	Added during the year. Acres.	Excluded or transferred to other heads. Acres	Area on 31st March 1891. Acres	Area on 31st March 1891. Equivalent in square miles.
Chingleput	17,054	26·65	..	2,963	14,091	22·02
North Arcot	..	..	..	..	..	..
South do.	331,926	518·63	..	166,703	165,223	258·16
Salem	206,311	322·36	2,560	62,449	146,422	228·78
Trichinopoly	26,598	41·56	..	..	26,598	41·56
Tanjore	26,566	41·50	..	..	26,566	41·50
North Coimbatore	..	.	..	..	..	..
South do.	1,312	2·05	..	.	1,312	2·05
Madura	87,368	136·51	116,745	15,667	188,446	294·45
Tinnevelly	10,824	16·91	..	..	10,824	16·91
North Malabar	214,400	335·00	..	..	214,400	335·00
South do.	150	·23	..	61	89	·14
South Canara	..	..	..	..	..	..
Total ..	922,509	1,441·40	119,305	247,843	793,971	1,240·57

ANNUAL FORM No. 60.

Forest Department, Madras, Southern Circle.

AREA of Plantations, 1890-91.

District	Number of plantations.	On 1st April 1890.		Added during 1890-91.		On 31st March 1891.	
		Area.	Cost.	Area.	Cost.	Area	Cost.
		ACS.	RS.	ACS.	RS.	ACS.	RS.
Regular plantations—							
Chingleput	6	396·09	31,816	..	1,052	396 09	32,868
North Arcot	5	1,035·	98,430	..	5,381	1,035·	1,03,811
South do.	15	1,861·05	1,05,899	* 6	3,753	1,867·05	1,09,652
Salem	..	..	..	..	..	..	..
Trichinopoly	22	3,754·01	90,151	..	2,864	3,754·01	93,015
Tanjore	5	708·	13,955	..	1,338	708·	15,293
North Coimbatore	1	97·	34;153	..	932	97·	35,085
South do	4	26·50	4,810	..	..	26·50	4,810
Madura	8	85·14	13,192	20	4,061	105 14	17,253
Tinnevelly	..	..	..	..	..	..	..
North Malabar	1	41·50	4,058	..	180	41·50	4,238
South do	16	3,869·75	2,41,793	100	8,763	3,969·75	2,50,556
South Canara	3	170·18	22,716	..	784	170·18	23,500
Total ..	86	12,044·22	6,60,973	126	29,108	12,170·22	6,90,081
Cultural operations—							
Direction	..	..	1,141	..	..	..	1,141
Chingleput	..	..	..	..	..	..	..
North Arcot	..	..	..	..	..	..	..
South do.	3	1,326	1,327	..	206	1,326	1,533
Salem	..	..	..	..	..	..	..
Trichinopoly	10	mls. 100	29,595	..	566	mls 100	30,161
Tanjore	20	1,126	1,973	10	48	1,136	2,021
North Coimbatore	..	..	..	..	..	..	..
South do	..	..	..	..	508	..	508
Madura	..	..	..	..	19	..	19
Tinnevelly	7	1,642	3,010	165	713	1,807	3,723
North Malabar	2	109	1,950	..	88	109	2,038
South do.	..	..	..	..	..	..	..
South Canara	..	..	38	..	..	..	38
Total ..	42	4,203 + 100 mls.	39,034	175	2,148	4,378 + 100 mls.	41,182

* Result of Survey

ANNUAL FORM No. 61.

Forest Department, Madras, Southern Circle.

ANNUAL LIST of Topes and Experimental Gardens, 1890-91.

District	Number	Area.	Cost.	
			During year.	To end of year.
		ACS.	RS.	RS.
Chingleput	8	93	239	8,454
North Arcot	641	749	1,664	33,983
South do.	94	391	56	8,813
Salem	263	3,061	1,177	1,98,819
Trichinopoly	17	81	14	1,793
Tanjore	16	153	..	..
North Coimbatore	183	14,032	96	28,971
South do.	7	101	153	5,301
Madura	23	101	3,799	18,637
Tinnevelly	28	106	186	4,676
North Malabar	1	20	202	2,967
South do.	2	3	..	9
South Canara	..	..	..	..
Total ..	1,283	18,891	7,586	3,12,483

ANNUAL FORM NO. 62.

Forest Department, Madras, Southern Circle.

AREA of Forest Tracts protected from Fire during 1890-91.

District.	UP TO 31ST MARCH 1890.		DURING DRY SEASON OF 1890 91				Total cost up to 31st March 1891.
	Area actually protected.	Total cost	Area attempted to be protected.	Fires.	Area actually protected	Amount expended.	
	ACS.	RS	ACS.	ACS.	ACS	RS.	RS.
Chingleput	23,294	3,315	23,294	200	23,094	512	3,827
North Arcot	544,876	17,794	558,187	2,374	555,813	2,289	20,083
South do.	128,920	6,495	130,243	2,700	127,543	875	7,370
Salem	30,651	16,645	30,979	13	30,966	2,066	18,711
Trichinopoly	55,530	2,337	79,750	..	79,750	215	2,552
Tanjore	..	..	..	..	..	..	..
North Coimbatore ..	2,337	1,278	2,364	..	2,364	294	1,572
South do. ..	47,167	8,712	55,803	35	55,768	2,021	10,733
Madura	192,218	27,319	193,975	4,290	189,685	5,052	32,371
Tinnevelly . ..	94,705	16,069	106,239	2,700	103,539	4,174	20,243
North Malabar	33,420	5,545	33,462	680	32,782	1,154	6,699
South do	43,803	12,078	78,120	4,000	74,120	2,190	14,268
South Canara	16,252	3,687	16,381	25	16,356	1,379	5,066
Total ..	1,213,173	1,21,274	1,308,797	17,017	1,291,780	22,221	1,43,495

Charged in previous years		1,01,080
Do in 1889-90		20,194
Do in 1890-91		22,221
Total ..		1,43,495

ANNUAL FORM No. 63.

Forest Department, Madras, Southern Circle.

PROSECUTIONS for Breaches of Forest Rules during 1890-91.

District.	Cases pending from 1889-90.	New cases of the year.				Total cases.
		Injury to forest by fire.	Unauthorised felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.	
1	2	3	4	5	6	7	8
Chingleput	..	..	146	..	10	156	156
North Arcot	7	1	165	149	19	334	341
South Arcot	105	7	291	362	63	723	828
Salem	29	10	499	199	39	747	776
Trichinopoly	78	3	371	364	9	747	825
Tanjore	4	..	17	5	4	26	30
North Coimbatore	7	..	36	51	45	132	139
South Coimbatore	12	4	146	171	28	349	361
Madura .. Under Forest Act ..	..	3	13	1	..	17	17
Madura .. Under Penal Code ..	..	..	1	..	..	1	1
Tinnevelly .. Under Forest Act ..	..	6	51	34	17	108	108
Tinnevelly .. Under Penal Code ..	5	..	..	2	14	16	21
North Malabar	..	2	12	1	7	22	22
South Malabar. Under Forest Act ..	1	..	5	..	26	31	32
South Malabar. Under Penal Code ..	1	..	1	..	..	1	2
South Canara	69	1	259	..	2	262	331
Total ..	318	37	2,013	1,339	283	3,672	3,990

District.	Disposed of during the year.										Cases pending at close of year.
	Convictions.		Acquittals.		Compounded.		Withdrawn.		Total.		
	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
9	10	11	12	13	14	15	16	17	18	19
Chingleput	100	215	39	84	16	24	..	..	155	323	1
North Arcot	77	127	43	177	209	417	..	..	329	721	12
South Arcot	87	209	17	52	344	909	20	54	468	1,224	360
Salem	457	1,635	105	494	133	499	49	124	744	2,752	32
Trichinopoly	271	548	62	181	438	786	..	..	771	1,495	54
Tanjore	9	110	..	..	9	45	..	..	18	155	12
North Coimbatore	7	29	8	22	72	180	12	52	99	283	40
South Coimbatore	72	284	4	33	212	735	14	40	302	1,092	59
Madura .. Under Forest Act ..	8	33	5	22	2	5	..	..	15	60	2
Madura .. Under Penal Code ..	1	1	..	..	..	..	..	..	1	1	..
Tinnevelly. Under Forest Act ..	67	193	24	75	5	5	8	27	104	300	4
Tinnevelly. Under Penal Code ..	16	63	..	2	..	..	..	..	16	65	5
North Malabar	5	13	1	1	16	27	..	..	22	41	..
South Malabar. Under Forest Act ..	22	38	9	16	1	6	..	..	32	60	..
South Malabar. Under Penal Code ..	2	4	..	1	..	..	..	..	2	5	..
South Canara	187	275	26	54	55	64	..	..	270	393	61
Total ..	1,388	3,777	345	1,214	1,512	3,682	103	297	3,348	8,970	642

Annual Form No. 64.

Forest Department, Madras, Southern Circle.

Summary of Revenue of the different districts, 1890-91.

Budget heads.	Direction	Chingleput.	North Arcot.	South Arcot.	Salem.	Trichinopoly	Tanjore.	North Coimbatore.	South Coimbatore.	Madura.	Tinnevelly.	North Malabar.	South Malabar.	South Canara.	Total.
Receipts.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
I. Timber and other produce removed from the Forests by Government Agency—															
(*a*) Timber	..	..	1,743	2,024	1,292	30	..	..	43,020	2,875	5,781	18,911	40,095	2,846	1,18,617
(*b*) Firewood and charcoal . ..	..	689	31,803	4,737	..	11,664	259	..	988	4,464	5,270	..	759	1,764	62,397
(*c*) Bamboos	..	..	38	..	83	..	..	..	.	1,036	33	.	1,885	3	3,078
(*d*) Sandalwood.. ..	..	..	8,345	1,169	5,411	..	..	2,000	.	..	..	..	..	..	16,925
(*e*) Grass and other minor produce ..	..	..	..	..	..	..	..	..	11,533	..	766	179	608	41,946	55,032
II. Timber and other produce removed from the Forests by consumers or purchasers—															
(*a*) Timber	..	3,133	28,134	7,440	26,131	15,188	644	9,781	8,113	19,563	6,974	6,282	5,767	1,621	1,38,761
(*b*) Firewood and charcoal	..	6,325	39,757	12,936	32,406	13,980	3,669	8,061	13,755	5,597	42,026	3	4,748	4,151	1,87,414
(*c*) Bamboos	..	227	27,876	6,106	27,864	4,094	116	15,738	6,744	2,426	570	389	569	888	93,607
(*d*) Grazing and fodder grass	..	2,337	7,885	4,829	14,096	6,515	576	20,694	8,083	2,319	838	447	126	..	68,745
(*e*) Other minor produce	..	18,985	52,060	32,098	43,904	26,313	3,806	41,992	8,241	24,795	16,647	1,146	71	1,627	2,71,685
III. Confiscated, drift and waifwood	..	22	1,124	164	717	89	2	823	318	86	779	21	37	237	4,419
IV. Revenue from Forests not managed by Government.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
V. Miscellaneous—															
(*a*) Fines and forfeitures	..	..	272	27	1,838	..	..	..	251	1	570	..	115	..	3,074
(*b*) Refunds	2,958	134	47	307	56	145	..	102	123	345	500	56	3	110	4,886
(*c*) Other sources ..	49	116	2,708	5,411	1,102	1,611	59	2,123	2,491	1,654	703	1,021	1,158	1,015	21,221
Total ..	3,007	31,968	2,01,792	77,248	1,54,900	79,629	9,131	1,01,314	1,03,660	65,151	81,457	28,455	55,941	56,208	10,49,861

Madras,
3rd July 1891.

(Signed) C. G. DOUGLAS,
Examiner of Forest Accounts.

Annual Form No. 64.

Forest Department, Madras, Southern Circle.

Summary of Expenditure of the different districts, 1890–91.

Budget heads.	Direction.	Chingleput.	North Arcot.	South Arcot.	Salem.	Trichinopoly.	Tanjore.	North Coimbatore.	South Coimbatore.	Madura	Tinnevelly.	North Malabar.	South Malabar.	South Canara.	Total.
A.—Conservancy and Works	Rs.	Rs.	Rs.	Rs	Rs	Rs.	Rs.	Rs.	Rs	Rs.	Rs	Rs.	Rs.	Rs.	Rs.
I. Timber and other produce removed from the Forests by Government Agency—															
(*a*) Timber	..	..	304	892	1,331	..	..	..	16,421	3,630	5,005	1,928	9,730	1,245	40,486
(*b*) Firewood and charcoal	..	..	7,558	3,180	111	7,378	44	..	1,871	5,403	1,369	.	3	1,035	27,952
(*c*) Bamboos	..	..	29	..	33	..	..	..	..	868	53	..	1	1	985
(*d*) Sandalwood	..	..	246	20	441	..	.	375		..	..	..	.	..	1,082
(*e*) Grass and other minor produce	..	..	3	..	..	..	..	..	6,443	.	340	33	357	21,584	28,760
II. Timber and other produce removed from the Forests by consumers or purchasers	81	1,112	5,752	2,515	12,054	2,414	388	7,961	3,365	3,131	1,896	..	43	3,736	44,948
III. Confiscated, drift and waifwood	..	..	86	25	89	.	5	209	5	7	192	..	4	1	623
IV. Revenue from Forests not managed by Government	..	..	..	..	..	..	..	..	.	..	..	..	..	.	..
V. Rent of leased Forests and payments to shareholders in Forests managed by Government	..	..	..	..	..	..	..	..	2,500	..	..	..	651	.	3,151
VI Live-stock, stores, tools and plant—															
(*a*) Purchase of cattle	..	..	..	..	..	..	.	..	767	15	.	153	424	..	1,359
(*b*) Feed and keep of cattle	..	..	..	.	..	27	..	..	4,673	1,011	..	2,112	5,552	..	13,375
(*c*) Stores, tools and plant	552	32	895	142	39	168	85	4	481	292	157	95	92	745	3,779
VII. Communications and buildings—															
(*a*) Roads and bridges	..	213	1,288	1,813	..	128	..	1,998	2,849	8,546	3,613	471	471	..	21,390
(*b*) Buildings	..	289	2,240	1,060	983	80	20	364	4,979	3,834	2,416	1,952	3,968	216	22,301
(*c*) Other works	..	..	..	7	..	..	..	..	.	.	2	119	31	75	234
VIII. Demarcation, improvement and extension of forests—															
(*a*) Demarcation	..	2,553	3,241	720	2,710	184	159	864	6,509	1,426	407	316	286	867	20,242
(*b*) Compensation for land and rights	1	25	4,159	204	272	540	..	..	..	61	..	450	70	..	5,782
(*c*) Surveys and working plans.	70,634	78	289	77	364	177	17	329	716	4,655	2,730	16	11	720	80,813
(*d*) Plantations	..	1,291	7,045	4,016	1,177	3,443	1,386	1,029	661	7,878	898	471	8,763	784	38,842
(*e*) Protection from fire	..	512	2,289	875	2,066	214	..	295	2,021	5,052	4,174	1,154	2,190	1,379	22,221
(*f*) Other works	6	1,894	6,018	4,602	6,715	4,387	1,951	306	1,148	..	4,261	54	724	436	32,502
IX. Miscellaneous—															
(*a*) Refunds	..	..	296	2,279	123	20	696	363	113	201	170	1,036	3	184	5,484
(*b*) Law charges	..	..	4	..	67	..	1	5	16	28	59	1,642	23	40	1,885
(*c*) Other charges	..	2,005	71	5	102	2	31	18	107	18	19	85	15	54	2,532
Total A.—Conservancy and Works	71,274	10,004	41,813	22,432	28,677	19,162	4,783	14,120	56,145	46,056	27,761	11,987	33,412	33,102	4,20,728

Madras,
3rd July 1891.

(Signed) C. G. DOUGLAS,
Examiner of Forest Accounts.

ANNUAL FORM No. 64.

Forest Department, Madras, Southern Circle.

SUMMARY of Expenditure of the different districts, 1890-91.

Budget heads.	Direction.	Chingleput.	North Arcot.	South Arcot.	Salem.	Trichinopoly.	Tanjore.	North Coimbatore.	South Coimbatore.	Madura.	Tinnevelly.	North Malabar.	South Malabar.	South Canara.	Total.
B.—*Establishments.*	RS.	RS.	RS.	RS	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
Brought forward, Total A.—Conservancy and Works ..	71,274	10,004	41,813	22,432	28,677	19,162	4,783	14,120	56,145	46,056	27,761	11,987	33,412	33,102	4,20,728
I. Salaries—															
(*a*) Conservators	18,363	..	..	..	..	..	..	..	..	..	..	..	..	..	18,363
(*b*) Superior officers ..	20,593	3,167	3,045	7,811	10,541	10,068	250	10,302	8,300	11,600	7,809	3,000	8,771	6,207	1,11,464
(*c*) Subordinate Forest and depôt establishments	1,775	3,357	11,143	11,110	10,897	4,449	2,271	6,511	9,092	7,667	7,391	5,517	5,583	4,828	91,591
(*d*) Office establishments..	19,716	1,220	2,540	2,853	2,740	1,780	650	2,885	2,945	2,155	2,706	2,670	1,601	2,046	48,507
(*e*) Deputation and special allowances	1,044	..	..	..	..	..	..	..	..	..	..	..	..	..	1,044
II. Travelling allowances—															
(*a*) Conservators	2,506	..	..	..	..	..	..	..	..	..	..	..	..	..	2,506
(*b*) Superior officers ..	4,471	989	997	666	869	529	133	1,194	1,695	1,949	2,303	837	1,107	917	18,656
(*c*) Subordinate Forest and depôt establishments	790	812	2,956	2,816	2,945	1,473	497	1,896	2,677	2,055	2,239	1,675	1,634	1,248	25,713
(*d*) Office establishments..	2,936	161	266	304	206	215	164	245	410	476	541	252	128	241	6,545
III. Contingencies—															
(*a*) Stationery	37	..	..	..	2	..	..	..	..	..	..	..	..	..	39
(*b*) Carriage of tents and records	1,123	80	91	135	135	54	103	110	66	212	231	31	..	227	2,598
(*c*) Rents, rates and taxes .	474	1	24	625	56	276	..	55	64	14	20	..	..	2	1,611
(*d*) Pay of Police guards..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(*e*) Official postage ..	1,129	231	94	637	966	401	162	384	319	558	650	112	142	648	7,043
(*f*) Sundries	1,512	149	175	379	313	143	56	652	484	362	572	289	207	128	5,321
Total B.—Establishments ..	76,469	10,167	21,941	27,236	29,670	19,388	4,286	24,234	26,052	27,048	24,462	14,383	19,173	16,492	3,41,001
Grand Total of Expenditure ..	1,47,743	20,171	63,754	49,668	58,347	38,550	9,069	38,354	82,197	73,104	52,223	26,370	52,585	49,594	7,61,729

MADRAS,
3rd July 1891.

(Signed) C. G. DOUGLAS,
Examiner of Forest Accounts.

ANNUAL FORM No. 65.

Forest Department, Madras, Southern Circle.

OUTSTANDINGS and liabilities on account of contractors and disbursers for 1890-91.

District.	DEPARTMENT DEBTOR.			DEPARTMENT CREDITOR.			BALANCE DUE.	
	At commencement of year.	Recoveries in cash and value of supplies and work done during the year.	At close of year.	At commencement of year.	Payments made during year.	At close of year.	To department (outstandings).	By department (liabilities).
	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Conservator, Southern Circle	..	1,947 8 6	1,947 8 6	70 14 0	2,086 11 0	2,157 9 0	210 0 6	..
Forest Settlement-officer, Chingleput, &c.	..	295 10 3	295 10 3	..	295 10 3	295 10 3	..	..
Do. do. Salem, &c.	..	290 8 8	290 8 8	290 8 8	..	290 8 8	..	..
Sericultural operations	..	25 0 0	25 0 0	..	25 0 0	25 0 0	..	..
Forest School, Dehra Dún	..	365 5 4	365 5 4	86 0 0	349 0 0	435 0 0	69 10 8	..
Three-fifths of Examiner's office	..	2,614 10 9	2,614 10 9	463 8 10	2,240 6 5	2,703 15 3	89 4 6	..
Chingleput	..	12,101 0 6	12,101 0 6	51 9 1	12,138 9 0	12,190 2 1	89 1 7	..
North Arcot	..	59,988 12 5	59,988 12 5	235 15 8	62,864 3 7	63,100 3 3	3,111 6 10	..
South do.	..	48,498 10 9	48,498 10 9	680 6 0	49,518 2 11	50,198 8 11	1,699 14 2	..
Salem	..	46,909 9 6	46,909 9 6	350 8 1	47,462 9 4	47,813 1 5	903 7 11	..
Trichinopoly	..	27,530 6 11	27,530 6 11	78 6 4	27,638 9 5	27,716 15 9	186 8 10	..
Tanjore	..	7,460 10 2	7,460 10 2	46 6 5	7,474 13 3	7,521 3 8	60 9 6	..
North Coimbatore	..	22,751 13 0	22,751 13 0	674 0 1	22,218 12 2	22,892 12 3	140 15 3	..
South do.	..	39,522 3 10	39,522 3 10	1,425 14 4	39,544 15 3	40,970 13 7	1,448 9 9	..
Madura	..	84,922 15 11	84,922 15 11	2,870 7 6	83,096 5 10	85,966 13 4	1,043 13 5	..
Tinnevelly	..	53,558 8 8	53,558 8 8	2,259 2 3	53,795 9 10	56,054 12 1	2,496 3 5	..
North Malabar	..	10,902 8 8	10,902 8 8	967 5 11	10,886 6 9	11,853 12 8	951 4 0	..
South do.	..	14,845 1 8	14,845 1 8	447 3 1	14,805 14 11	15,253 2 0	408 0 4	..
South Canara	..	39,281 11 6	39,281 11 6	12,296 15 5	34,790 8 3	47,087 7 8	7,805 12 2	..
Total ..	..	4,73,812 13 0	4,73,812 13 0	23,295 3 8	4,71,232 4 2	4,94,527 7 10	20,714 10 10	..

MADRAS,
3rd July 1891.

(Signed) C. G. DOUGLAS,
Examiner of Forest Accounts.

Annual Form No. 66.

Forest Department, Madras, Southern Circle.

Revenue received and outstandings on account of revenue during 1890-91.

District.	Particulars.	Outstandings at commencement of year.	Value of sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the department at end of year.	Remarks.
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
Direction	Timber and other produce ..	..	3,006 14 2	3,006 14 2	3,006 14 2	..	(a) Written off the accounts Rs. 4-4-6—*vide* Conservator's Sanction Order No. 175 of 1890-91.
Chingleput	Do. do. ..	..	31,968 5 4	31,968 5 4	31,968 5 4	..	
North Arcot	Do. do. ..	791 1 1	2,02,785 6 0	2,03,576 7 1	2,01,791 12 0 (a) + 4 4 6	1,780 6 7	(b) Written off the accounts—
South do.	Do. do. ..	1,169 0 1	78,680 14 11	79,849 15 0	77,248 7 0	2 601 8 0	Rs. A. P.
Salem	Do. do. ..	2,631 4 4	1,53,800 1 7	1,56,431 5 11	1,54,900 0 2 (b) + 89 14 6	1,441 7 3	15 0 0 *Vide* Board's Proceedings, dated 16th September 1889, No. 637.
Trichinopoly	Do. do. ..	2,197 13 9	81,696 8 9	83,894 6 6	79,628 9 6 (c) + 74 12 0	4,191 1 0	15 0 0 *Vide* Board's Proceedings, dated 21st October 1890, Mis. No. 1100.
Tanjore	Do. do. ..	594 0 0	8,572 15 5	9,166 15 5	9,130 15 5	36 0 0	
North Coimbatore ..	Do. do. ..	1,428 7 7	1,04,415 13 6	1,05,844 5 1	1,01,313 11 10	4,530 9 3	
South do. ..	Do. do. ..	805 13 1	1,04,143 9 6	1,04,949 6 7	1,03,660 5 11	1,289 0 8	59 14 6 *Vide* Conservator's Sanction Order No. 75 of 1890-91.
Madura	Do. do. ..	1,260 6 11	66,464 9 2	67,725 0 1	65,150 11 8	2,574 4 5	
Tinnevelly	Do. do. ..	975 13 10	82,217 8 1	83,193 5 11	81,457 5 11	1,736 0 0	
North Malabar	Do. do. ..	1,471 0 0	28,560 3 1	30,031 3 1	28,455 3 1 (d) + 1,391 0 0	185 0 0	89 14 6
South do.	Do. do. ..	58 0 0	56,057 10 4	56,115 10 4	55,940 10 4	175 0 0	
South Canara	Do. do. ..	1,118 15 6	57,817 5 6	58,936 5 0	56,207 9 0	2,728 12 0	(c) 32 4 0 *Vide* Board's Proceedings, No. 288, dated 27th May 1890.
							42 8 0 *Vide* Forest No. 1235 Mis., dated 28th November 1890.
							74 12 0
							(d) 1,391 0 0 Written off the accounts—*vide* Board's Proceedings, dated 11th April 1890, Mis. No. 411.
	Total ..	14,501 12 2	10,60,187 13 4	10,74,689 9 6	10,49,860 9 4 + 1,559 15 0	23,269 1 2	

Madras,
3rd July 1891.

(Signed) C. G. DOUGLAS,
Examiner of Forest Accounts.

Annual Form No. 67.

Forest Department, Madras, Southern Circle.

Financial Results of the year 1890–91.

District.	Timber and other produce removed from the forests by Government Agency.		Other Revenue.		Formation, protection and improvement of Forests.	Total.	
	Receipts.	Charges.	Receipts	Charges.	Charges.	Receipts.	Charges.
	Rs.	Rs	Rs.	Rs.	Rs.	Rs.	Rs.
Chingleput	689	201	31,398	13,472	12,336	32,087	26,009
North Arcot	41,929	13,664	1,60,471	25,646	42,218	2,02,400	81,528
South do.	7,930	8,088	69,581	31,224	23,664	77,511	62,976
Salem	6,786	3,660	1,48,677	45,234	24,422	1,55,463	73,316
Trichinopoly	11,694	12,026	68,193	19,920	16,230	79,887	48,176
Tanjore	259	152	8,906	4,758	6,907	9,165	11,817
North Coimbatore ..	2,000	1,003	99,692	39,010	7,487	1,01,692	47,500
South do. ..	55,541	50,295	48,302	16,466	30,450	1,03,843	97,211
Madura	8,375	16,378	56,992	26,218	49,732	65,367	92,328
Tinnevelly	11,850	11,782	69,872	24,380	30,285	81,722	66,447
North Malabar	19,090	14,202	9,400	6,052	12,851	28,490	33,105
South do.	43,347	32,076	12,642	3,677	29,052	55,989	64,805
South Canara . ..	46,559	40,161	9,686	7,200	9,150	56,245	56,511
Total ..	2,56,049	2,03,688	7,93,812	2,63,257	2,94,784	10,49,861	7,61,729

Annual Form No. 68.

Forest Department, Madras, Southern Circle.

Trees felled by Government Agency during the year 1890–91.

(Selection fellings.)

	Teak.	Rosewood.	Vengai.	Other timbers.	Sandal-wood.	Total.
	No.	No.	No.	No.	No.	No.
Stock of the Circle at the beginning of the year ..	18	13	2	269	..	302
Chingleput	..	..	..	..	..	..
North Arcot	..	..	..	209	..	209
South do.	..	..	3	301	..	304
Salem	..	..	..	1,267	515	1,782
Trichinopoly	..	..	..	..	..	..
Tanjore	..	..	..	..	..	..
North Coimbatore	..	..	..	..	..	..
South do.	398	10	39	222	..	669
Madura	25	57	197	29	..	308
Tinnevelly	..	..	..	31	..	31
North Malabar	695	27	19	1	..	742
South do.	348	12	39	552	..	951
South Canara	15	8	10	77	..	110
Total number of trees felled during the year by selection felling	1,481	114	307	2,689	515	5,106
Total ..	1,499	127	309	2,958	515	5,408
Converted into logs, &c., and shown in Form No. 69	1,484	116	289	* 2,725	515	5,129
Balance on hand at the end of the year	15	11	20	233	..	279

* Includes 6 rejected as being useless.

Annual Form No. 69.

Forest Department, Madras, Southern Circle.

Statement of Timber and other Produce cut and collected by Government Agency during the year 1890–91.

	Timbers						Fuel	Bamboos.	Sandalwood.	Minor produce.
	Teak.	Rosewood	Vengai.	Other timbers	Redwood.	Total timbers.				
	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT	NOS.	C. FT.	MDS.
Stock of the Circle at the beginning of the year ..	72,208	6,111	2,062	53,828	..	134,209	22,349	3,617	91	10,175
Chingleput	..	..	..	..	..	..	7,546	..	..	..
North Arcot	..	..	..	4,093	..	4,093	297,934	1,883	..	..
South do.	..	..	16	3,380	..	3,396	74,616	..	..	..
Salem	..	..	..	1,900	..	1,900	..	1,420	582	..
Trichinopoly	..	..	..	..	..	..	205,259	.	..	..
Tanjore	..	..	..	..	..	..	1,160	..	..	..
North Coimbatore ..	..	..	..	..	..	..	..	.	703	..
South do. ..	11,891	675	1,401	5,748	..	19,715	61,831	..	..	2,145
Madura	578	1,053	3,241	779	..	5,651	64,544	17,148	..	..
Tinnevelly	2,423	..	..	3,876	..	6,299	166,818	146	..	285
North Malabar	34,762	727	856	358	..	36,703	..	..	..	32
South do. . ..	33,842	2,814	30	26,547	..	63,233	4,771	21,831	..	427
South Canara	317	390	..	10,727	..	11,434	15,866	50	..	13,277
Collection during the year for the Circle	83,813	5,659	5,544	57,408	..	152,424	900,348	42,478	1,285	16,166
Total ..	156,021	11,770	7,606	111,236	..	286,633	922,697	46,095	1,376	26,341
Sold locally in the forest..	49,037	4,423	3,354	44,250	..	101,114	756,935	13,364	694	22,360
Used departmentally, wastage, written off, &c. ..	4,124	..	2	6,986	..	11,112	974	1,165	..	93
Removed to sale depôts ..	60,975	3,381	1,420	35,310	..	101,086	108,896	22,398	682	363
Total disposal ..	114,186	7,804	4,776	86,546	..	213,312	866,805	36,927	1,376	22,816
Stock in the forest on 31st March 1891	41,835	3,966	2,830	24,690	..	73,321	55,892	9,168	..	3,525

ANNUAL FORM No. 70.

Forest Department, Madras Southern Circle.

RECEIPTS and issues of timber and other produce in sale depôts during the year 1890-91.

—	TIMBERS.						Fuel.	Bamboos.	Sandalwood.	Minor produce.
	Teak.	Rosewood.	Vengai.	Other timbers.	Redwood roots.	Total timbers.				
	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	NO.	C. FT.	MDS.
Stock of the Circle at sale depôts at the beginning of the year	27,242	305	..	2,154	25,575	55,276	9,106	4,700	1,901	19
Chingleput	..	..	..	..	..	..	..	..	..	..
North Arcot	..	..	..	..	..	..	19,578	..	..	..
South do.	..	..	6	2,309	..	2,315	..	..	91	..
Salem	..	..	..	1,900	..	1,900	..	1,420	582	..
Trichinopoly	..	..	..	..	..	..	41,276	..	..	..
Tanjore	..	..	..	..	..	..	..	..	..	..
North Coimbatore ..	..	..	..	..	..	..	..	..	9	..
South do. ..	27,055	3,133	1,414	21,914	..	53,516	33,950	..	..	108
Madura	..	..	..	..	..	..	9,318	..	..	..
Tinnevelly	..	..	..	3,391	..	3,391	..	85	..	69
North Malabar	..	..	..	..	..	..	..	..	..	..
South do.	33,635	..	..	..	..	33,635	4,774	20,893	..	186
South Canara	285	248	..	5,796	..	6,329	..	..	..	..
Total received from forests into the sale depôts during the year	60,975	3,381	1,420	35,310	..	101,086	108,896	22,398	682	363
Receipts from one sale depôt into another ..	348	..	..	903	..	1,251	3,243	..	91	..
Quantity found in depôts in excess of original measurement in the forests	3	..	..	6	..	9	18	..	97	31
Total receipts including previous year's stock ..	88,568	3,686	1,420	38,373	25,575	157,622	121,263	27,098	2,771	413
Sold from depôts	50,725	3,217	1,330	18,386	..	73,658	70,561	27,065	2,005	389
Removed from one sale depôt into another ..	* 3,591	..	..	903	..	4,494	..	..	91	..
Quantity used departmentally, wastage, written off	1,768	..	..	124	..	1,892	2,212	33	7	15
Total ..	56,084	3,217	1,330	19,413	..	80,044	72,773	27,098	2,103	404
Balance at the end of the year	22,484	469	90	18,960	25,575	77,578	48,490	..	668	9

* Includes 3,243 cubic feet of timber treated as firewood.

Annual Form No. 71.

Forest Department, Madras, Southern Circle.

Sales of timber and other produce cut and collected by Government Agency during the year 1890–91.

District.	Timber.								Total timber.			
	Teak.		Rosewood.		Vengai.		Other timbers.		From depôt.		From forest.	
	From depôt.	From forest.	From depôt.	From forest.	From depôt.	From forest.	From depôt.	From forest.	Quantity.	Amount.	Quantity.	Amount.
1	2	3	4	5	6	7	8	9	10	11	12	13
	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	RS.	C. FT.	RS.
Chingleput	..	..	..	..	..	..	..	4,093	..	..	4,093	2,179
North Arcot	..	..	..	..	6	..	2,042	831	2,048	1,843	831	181
South do.	..	..	..	..	..	..	1,801	...	1,801	1,472	..	..
Salem	..	..	..	..	..	..	653	..	653	30	..	..
Trichinopoly	..	..	..	..	..	..	..	..	..	..	..	..
Tanjore	..	..	..	..	..	..	..	..	..	..	..	..
North Coimbatore	..	..	..	..	..	..	..	..	..	..	..	..
South do.	25,119	1,177	3,085	172	1,324	885	7,646	9,558	37,254	38,638	11,792	5,130
Madura	..	695	..	778	..	1,583	..	552	..	..	3,518	3,375
Tinnevelly	..	2,220	..	..	..	..	3,022	1,716	3,022	3,312	3,936	2,778
North Malabar	..	44,846	..	517	..	856	..	..	..	..	46,219	18,911
South do.	25,267	207	..	2,814	..	30	..	26,509	25,267	29,489	29,560	10,780
South Canara	259	32	132	142	..	..	3,222	991	3,613	2,562	1,165	284
Total ..	50,725	49,087	3,217	4,423	1,330	3,354	18,386	44,250	73,658	77,346	101,114	43,618

Sales of timber and other produce cut and collected by Government Agency during the year 1890–91—*cont.*

District.	Fuel				Bamboos.				Sandalwood.				Minor produce.			
	From depôt.		From forest,		From depôt,		From forest,		From depôt.		From forest.		From depot.		From forest.	
	Quantity.	Amount.	Quantity.	Amount.	Quantity	Amount.	Quantity.	Amount.	Quantity.	Amount.	Quantity.	Amount.	Quantity.	Amount.	Quantity.	Amount.
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
	C. FT.	RS.	C. FT.	RS.	NO.	RS.	NO.	RS.	C. FT.	RS.	C. FT.	RS.	MDS.	RS.	MDS.	RS.
Chingleput	..	..	7,546	689	..	..	..	..	..	..	..	..	..	..	..	..
North Arcot	8,862	1,452	278,356	30,981	..	..	1,883	50	1,184	8,345	..	..	..	..	..	..
South do.	..	..	74,809	7,338	..	..	..	..	..	..	..	..	..	..	..	..
Salem	..	..	..	..	1,420	62	..	..	821	5,486	..	..	..	..	..	..
Trichinopoly	38,220	4,306	152,942	9,361	..	..	..	..	..	..	..	..	..	..	..	..
Tanjore	..	..	1,160	109	..	..	..	..	..	..	..	..	..	..	..	..
North Coimbatore	..	..	..	..	..	..	..	..	..	..	694	5,209	..	..	..	..
South do.	7,814	808	11,823	180	..	..	..	..	..	..	..	..	108	965	2,023	10,297
Madura	6,757	1,088	47,393	3,473	..	..	11,000	1,036	..	..	..	..	..	..	..	..
Tinnevelly	..	..	166,799	5,256	52	2	61	31	..	..	..	..	69	577	27	189
North Malabar	..	..	..	..	..	..	..	..	..	..	..	..	..	..	31	179
South do.	8,908	701	..	..	25,593	1,877	170	8	..	..	..	..	212	566	..	42
South Canara	..	..	16,107	1,699	..	..	250	3	..	..	..	..	..	..	20,279	41,547
Total ..	70,561	8,355	756,935	59,086	27,065	1,941	13,364	1,128	2,005	13,831	694	5,209	389	2,108	22,360	52,254

		Quantity sold.			Amount of sales.			Amount actually realised.
		From depôt.	From forest.	Total.	From depôt.	From forest.	Total.	
					RS.	RS.	RS.	RS.
I (a)	Timber .. .. C. ft.	73,658	101,114	174,772	77,346	43,618	1,20,964	1,18,617
(b)	Fuel .. .. ,,	70,561	756,935	827,496	8,355	59,086	67,441	62,397
(c)	Bamboos .. .. .. No.	27,065	13,364	40,429	1,941	1,128	3,069	3,078
(d)	Sandalwood .. .. .. C. ft.	2,005	694	2,699	13,831	5,209	19,040	16,925
(e)	Minor produce .. .. .. Mds.	389	22,360	22,749	2,108	52,254	54,362	55,032
Grand Total of sales during the year both from forests and depôts							2,64,876	2,56,049
Add outstandings due from previous year as per form No.66..							4,635	
Total ..							2,69,511	
Deduct amount of outstandings written off							75	
Do. realized during the year as per form No. 64..							2,56,049	
Balance outstanding on 31st March 1891 ..							13,387	

ANNUAL FORM No. 72-A.

Forest Department, Madras, Southern Circle.

TIMBER and other Produce cut, collected and removed by consumers or purchasers during 1890–91.

District.	Timber.	Firewood and charcoal.	Bamboos.	MONEY VALUE OF SALES.									
				Timber.		Firewood.		Bamboos.		Grazing and fodder grass.		Minor produce.		Total.	
				Amount of sales.	Amount actually realized during the year.	Amount of sales.	Amount actually realized during the year.	Amount of sales.	Amount actually realized during the year.	Amount of sales.	Amount actually realized during the year.	Amount of sales.	Amount actually realized during the year.	Amount of sales.	Amount actually realized during the year.
	C. FEET.	C. FEET.	NO.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS	RS.
Chingleput	35,991	118,867	3,661	3,133	3,133	6,325	6,325	227	227	2,337	2,337	18,985	18,985	31,007	31,007
North Arcot	176,406	477,666	2,332,760	28,043	28,134	39,763	39,757	27,876	27,876	7,885	7,885	52,060	52,060	1,55,627	1,55,712
South do.	57,684	565,093	10,956	7,440	7,440	12,936	12,936	6,106	6,106	4,829	4,829	32,098	32,098	63,409	63,409
Salem	343,841	951,948	1,877,000	26,131	26,131	32,419	32,406	27,307	27,864	14,081	14,096	43,127	43,904	1,43,065	1,44,401
Trichinopoly	231,687	199,938	527,866	15,134	15,188	13,980	13,980	4,094	4,094	6,567	6,515	26,380	26,313	66,155	66,090
Tanjore	9,397	124,349	18,605	644	644	3,307	3,669	76	116	576	576	3,800	3,806	8,403	8,811
North Coimbatore ..	87,361	375,146	1,131,500	9,781	9,781	8,061	8,061	15,738	15,738	20,694	20,694	41,885	41,992	96,159	96,266
South do. ..	60,301	1,051,788	..	8,119	8,115	13,755	13,755	6,744	6,744	8,083	8,083	8,241	8,241	44,942	44,936
Madura	344,800	224,651	..	20,292	19,553	5,597	5,597	2,426	2,426	2,319	2,319	24,774	24,795	55,408	54,690
Tinnevelly	28,856	1,280,322	..	6,956	6,974	41,943	42,026	570	570	1,179	838	16,873	16,647	67,521	67,055
North Malabar	24,188	32	25,609	6,282	6,282	3	3	389	389	447	447	1,251	1,146	8,372	8,267
South do.	60,398	222,878	64,528	5,767	5,767	4,748	4,748	569	569	126	126	71	71	11,281	11,281
South Canara	8,932	251,525	61,896	1,621	1,621	4,151	4,151	888	888	..	..	3,700	1,627	10,360	8,287
Total ..	1,469,842	5,844,203	6,044,381	1,39,343	1,38,761	1,86,988	1,87,414	93,010	93,607	69,123	68,745	2,73,245	2,71,685	7,61,709	7,60,212
Add outstanding due from previous year as per Form No. 66														9,866	
Total ..														7,71,575	
Deduct amount of outstanding written off, &c.														1,481	
Do. amount realized during the year as per Form No. 64														7,60,212	
Balance outstanding on 31st March 1891 as per Form No. 66														9,882	

ANNUAL FORM No. 72-B.

Forest Department, Madras, Southern Circle.

TIMBER and other Produce confiscated and sold during the year 1890-91.

District.	TIMBER.		FIREWOOD		BAMBOOS.		Minor produce in value.	Total amount of sales.	Amount actually realized.
	Quantity in cubic feet.	Amount of sales	Quantity in cubic feet	Amount of sales.	Number.	Amount of sales.			
		RS		RS.		RS.	RS.	RS.	RS.
Chingleput	5	1	776	24	..	..	..	25	22
North Arcot ..	1,183	637	2,311	281	5,005	163	43	1,124	1,124
South do. ..	845	55	1,538	67	20	1	41	164	164
Salem	2,205	259	848	75	14,134	150	233	717	717
Trichinopoly ..	441	55	151	10	660	8	15	88	88
Tanjore	..	..	20	1	..	..	2	3	3
North Coimbatore ..	4,333	818	..	..	570	5	..	823	823
South do. ..	1,540	196	1,367	43	420	2	77	318	318
Madura	544	56	169	9	340	10	11	86	86
Tinnevelly	863	619	2,593	123	664	33	4	779	779
North Malabar ..	347	21	..	..	..	..	..	21	21
South do. ..	59	12	53	1	40	3	21	37	37
South Canara ..	1,921	220	194	16	225	1	..	237	237
Total ..	14,286	2,949	10,020	650	22,078	376	447	4,422	4,419

ANNUAL FORM No. 73-A.

Forest Department, Madras, Southern Circle.

ABSTRACT showing the value of timber and other produce at sale depôts for the year 1890-91.

ict	Description of timber or produce.	ON HAND AT COMMENCEMENT OF THE YEAR			ON HAND AT END OF THE YEAR.			DIFFERENCE IN VALUE.	
		Number	Cubic feet.	Value.	Number.	Cubic feet	Value.	In favor of the year.	Against the year.
				RS.			RS	RS.	RS.
Chingleput ..	...	..	..	..	..	..	..	..	..
North Arcot .	Redwood roots and stumps.	Tons lb. 511 1,120	25,575	7,672	Tons. lb. 511 1,120	25,575	7,672	.	..
	Babul and casuarina wood	10 537	410	20	166 1,331	11,144	551	531	..
	Sandalwood and roots ..	22 617	1,114	1,782	..	..	..	.	1,782
	Total ..	544 34	27,099	9,474	678 211	36,719	8,223	.	1,251
South Arcot ..	Miscellaneous timber ..	No. 1	2·4	1	70	268·76	178	177	..
	Sandalwood roots and billets.	lb. 0 144	4	13	Ton. lbs. 1 1,984	94	377	364	..
	Total ..	0 144 / No. 1	6·4	14	1 1,984 / No. 70	362 76	555	541	..
Salem	Sandalwood	Mds. lb. 1,449 24½	783	5,382 8 3	Mds. lb. 1,011 30	565	4,172 6 0	..	1,210
	Other timbers	..	..	..	No. 11	99	99 0 0	99	..
	Total ..	Mds. lb. 1,449 24½	783	5,382 8 3	Mds. lb. 1,011 30 / No. 11	664	4,271 6 0	..	1,111

Abstract showing the value of timber and other produce at sale depôts for the year 1890-91—*cont.*

District.	Description of timber or produce.	On hand at commencement of the year.			On hand at end of the year.			Difference in value.	
		Number.	Cubic feet.	Value.	Number.	Cubic feet.	Value.	In favour of the year.	Against the year.
				Rs.			Rs.	Rs.	Rs.
Trichinopoly	Miscellaneous timber ..	653	..	81	..	..	..	..	81
	Firewood	..	1,112	95	..	4,168	395	300	..
	Total ..	No. 653	1,112	176	..	4,168	395	219	..
Tanjore ..	.... ..	..	..	..	..	..	..	..	..
North Coimbatore.	Sandalwood billet and roots.	..	..	..	..	9	45	45	..
	Total ..	..	..	..	..	9	45	45	..
South Coimbatore.	Teak	501	12,295	9,493	385	c. ft. 12,437	9,415	..	78
	Rosewood	14	305	184	5	353	265	81	..
	Vengai	..	..	..	1	90	74	74	..
	Miscellaneous timber ..	9	265	151	505	14,539	6,719	6,568	..
	Firewood	..	..	..	Tons. lb. 384 838	26,136 lb.	3,072	3,072	..
	Other minor produce ..	..	..	..	2	$3\frac{13}{14}$	6	6	..
	Total ..	524	12,865	9,828	898 and Tons. lb. 384 838	53,555 and lb. $3\frac{13}{14}$	19,551	9,723	..
Madura ..	Firewood	..	6,693·08	750	..	6,970	780	30	..
	Do. (charcoal) ..	..	..	..	..	72	..	..	..
	Total ..	..	6,693·08	750	..	7,042	780	30	..
Tinnevelly ..	Miscellaneous timber ..	..	..	..	63	245	184	184	..
	Minor produce	lb. 24	..	4	12	lb. 13	3	..	1
	Total ..	lb. 24	..	4	75	c. ft. 245 and lb. 13	187	183	..
North Malabar.	.... ..	..	..	..	..	..	..	..	..
South Malabar.	Miscellaneous timber ..	30	1,234	770	30	1,234	770	..	..
	Teak	22,619	14,946	18,000	22,788	20,021	19,000	1,000	..
	Karyas	340	891	10	209	..	6	..	4
	Bamboos	4,700	..	300	..	..	..	..	300
	Minor produce	lb. 450 = Mds. 18	..	200	lb. Mds. 199½ = 8	..	7	..	193
	Total ..	No 5,040 22,049 Mds 18	16,180 and 891	19,280	22,818 No. 209 and Mds. 8	21,255	19,783	503	..
South Canara..	Teak	..	..	..	2	26	42	42	..
	Rosewood	..	..	..	4	116	131	131	..
	Miscellaneous timber ..	..	..	..	415	2,574	2,517	2,517	..
	Total ..	..	..	..	421	2,716	2,690	2,690	..

Abstract showing the value of timber and other produce at sale depôts for the year 1890–91—*cont.*

District.	Description of timber or produce.	On hand at commencement of the year.			On hand at end of the year.			Difference in value.	
		Number.	Cubic feet.	Value.	Number.	Cubic feet.	Value.	In favour of the year.	Against the year.
	GRAND TOTAL.								
				Rs.			Rs.	Rs.	Rs.
	Teak	501	12,295	9,493	387	12,463	9,457	..	36
	Do. saplings	22,619	14,947	18,000	22,788	20,021	19,000	1,000	..
	Vengai	..	..	..	1	90	74	74	..
	Rosewood	14	305	184	9	469	396	212	..
		Tons. lb.			Tons. lb.				
	Redwood	511 1,120	25,575	7,672	511 1,120	25,575	7,672	..	..
	Miscellaneous timber ..	40 No. 653	1,501·4 + 653	1,003	1,094	18,959·76	10,467	9,464	..
	Firewood	..	8,215	865	..	48,490	4,788	3,923	..
		No.							
	Do.	340	891	10	209	..	6	..	4
	Bamboos	5,040	..	310	..	..	..	..	300
	Rectification	— 340	..	— 10	..	..	..	..	..
	Sandalwood	..	1,901	7,177	..	668	4,594	..	2,583
		Mds. lb.			Mds.				
	Minor produce	18 24	..	204	9	..	16	..	188
		..	..	44,918 — 10	..	..	56,480	11,562	..

Annual Form No. 73-B.

Forest Department, Madras, Southern Circle.

Abstract showing the value of Live-stock, Stores, Tools and Plant for the year 1890–91.

District.	Surveying, &c., Instruments.				Tools.				Machinery.				Furniture.			
	On hand at commencement of the year.		On hand at end of the year.		On hand at commencement of the year.		On hand at end of the year.		On hand at commencement of the year.		On hand at end of the year.		On hand at commencement of the year.		On hand at end of the year.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
Chingleput	19	329	20	334	202	483	222	510	..	..	..	..	40	395	42	430
North Arcot	34	784	34	740	826 cwt. 32·94	1,946	939 cwt. 32·94	2,431	2	(a) 9,398	2	(a) 9,161	79	424	103	500
South Arcot	67	1,274	73	1,274	549	316	703	434	7	271	7	271	187	1,513	206	1,592
Salem	52	604	52	604	270	1,184	271	1,214	..	..	..	..	17	128	19	136
Trichinopoly	8	407	9	412	983	1,136	1,011	1,161	..	..	..	..	61	480	67	529
Tanjore	21	..	21	..	175	16	210	16	..	..	..	..	20	..	20	..
North Coimbatore	18	82	25	82	846	1,092	903	1,092	..	..	..	..	259	190	273	199
South Coimbatore	51	59	46	59	534	..	531	..	..	42,447	..	42,447	242	49	239	49
Madura	23	491	24	737	214	634	288	4,272	..	..	..	..	127	530	128	603
Tinnevelly	33	755	37	772	324	562	421	695	..	..	..	..	284	1,483	285	1,516
North Malabar	33	407	13	340	38	206	44	159	.	..	..	..	4	26	4	26
South Malabar	10	322	10	322	713	452	734	460	17	105	17	106	37	149	37	149
South Canara	36	..	36	..	371	..	435	785	1	..	..	..	103	..	106	603
Total ..	405	5,514	400	5,676	6,045 cwt. 32·94	8,027	6,712 cwt. 32·94	13,229	27	52,221	26	51,985	1,460	5,367	1,529	6,332

(a) Includes cost of tram materials, old and new.

Abstract showing the value of Live-stock, Stores, Tools and Plant for the year 1890-91—*cont.*

District	Buildings.				Live-stock				Miscellaneous.				Total.					
	On hand at commencement of the year.		On hand at end of the year		On hand at commencement of the year.		On hand at end of the year.		On hand at commencement of the year.		On hand at end of the year.		On hand at commencement of the year.		On hand at end of the year.		Difference in value.	
	Number.	Value.	Number.	Value.	Number	Value	Number.	Value.	Number	Value.	Number.	Value.	Number.	Value.	Number	Value.	In favour of the year.	Against the year.
	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
		Rs.		Rs		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.	Rs.	Rs.
Chingleput	4	608	4	883	..	..	..	..	..	..	..	..	265	1,815	286	2,157	342	..
North Arcot	40	3,340	38	3,173	..	..	..	..	..	..	6	45	981 cwt. 32·94	15,892	1,122 cwt. 33·94	16,050	158	..
South Arcot	10	4,301	12	4,097	..	..	..	..	433	1,370	422	1,348	1,253	9,045	1,423	9,016	..	29
Salem	3	75	3	75	..	..	..	..	7	28	7	28	349	2,019	352	2,057	38	..
Trichinopoly	9	1,585	10	2,062	4	172	..	..	220	460	218	371	1,285	4,240	1,315	4,535	295	..
Tanjore	4	322	5	326	..	..	..	..	21	17	22	77	241	355	278	419	64	..
North Coimbatore ..	33	3,520	42	7,746	..	..	..	..	..	.	..	..	1,156	4,884	1,243	9,119	4,235	..
South Coimbatore ..	36	157	21	157	(*b*) 5	7,700	6	7,700	81	..	47	..	949	50,412	890	50,412	..	..
Madura	86	10,093	91	13,616	6	120	6	135	..	..	..	..	456	11,868	537	19,363	7,495	..
Tinnevelly ..	77	9,575	77	9,575	..	..	..	..	..	..	..	.	718	12,375	820	12,558	183	..
North Malabar ..	8	1,567	8	1,567	4	6,100	7	7,000	27	220	45	331	114	8,526	121	9,423	897	..
South Malabar ..	22	14,290	24	14,350	8	6,702	16	17,202	156	923	165	950	963	22,943	1,003	33,539	10,596	..
South Canara ..	20	170	20	170	..	..	..	..	207	..	236	..	738	170	833	1,558	1,388	..
Total ..	352	49,603	355	57,797	27	20,794	35	32,037	1,152	3,018	1,168	3,150	9,468 cwt. 32·94	1,44,544	10,225	1,70,206	25,662	..

(*b*) One not valued

BENGAL ENGINEERING COLLEGE LIBRARY.

ANNUAL FORM No. 74.

Forest Department, Madras.

STATEMENT of Elephants in the Southern Circle during the year 1890–91.

PART I.

Elephants in possession of the reporting officers throughout the year.

District.	Names.	When purchased or otherwise obtained by Government.	Cost of monthly Keep including servants and food.	Rs. A. P.	Remarks
	Elephants.				
South Coimbatore.	1. Sankara	28th June 1888. Arrived from North Malabar.	Per head ..	77 14 2	
	2. Chloe				
	3. Parvathi	August 1890. Arrived from South Malabar.			
	4. Karthiyayani				
	5. Rani	Purchased in May 1889 in South Malabar			
North Malabar ..	1. Phyllis	Purchased in January 1878.	Do. ..	36 0 0	
	2. Lakshmi	Transferred from Anaimalai in May 1881.			
	3. Peri	Captured in April 1889 ..			
	4. Kalyani	Purchased from Mr. Sanderson, Superintendent of Keddas, Mysore, in October 1889.			
South Malabar ..	1. Vixen	Transferred from Wynaad in 1882.	Do. ..	28 3 9	
	2. Poyru	Do. do. ..			
	3. Sampson	Purchased from Mr. Morgan in 1884.			
	4. Eva	Do. do. ..			
	5. Juno	Captured in February 1886.			
	6. Jupiter	Do in July 1887.			
	7. Theban	Do. in January 1886.			
	8. Mars	Do. in July 1887.			
	9. Rani	Captured in North Malabar in June 1889.			
	10. Maharaj	Captured in 1886-87 ..			
	11. Jembu	Do. do. ..			
	12. Gordon	Do. on 11th February 1889.			
	13. Jessy	Do. in January 1890 ..			
	14. Eddy	Do. in February do. ..			
	15. Mary	Do. in March 1890 ..			
	Other Cattle.				
Trichinopoly ..	....	....	..	..	
Madura ..	1. Two Kodaikánal bulls.	Purchased in 1885 ..	Per head ..	14 1 7	
	2. Two Navinipatti bulls.	Do. in 1886 ..			
	3. One bull for Gundanshola Depôt	Do. in 1889 ..			
North Malabar ..	....	....	..	..	

PART II.

Elephants received in the year.

District.	Names.	When purchased or otherwise obtained by Government.	Cost of Keep including servants and food.		Remarks.
	Elephants.			Rs. A. P.	
South Coimbatore.	One calf	Caught	..	..	
North Malabar ..	Not named	Captured in the Government pitfalls in March 1891.			
South Malabar ..	1 Loo	Captured on 2nd April 1890.	Per head.	15 0 0	
	2 Hercules	Do. on 24th December 1890.			
	Other Cattle.				
Trichinopoly ..	....	....	..	..	
Madura	A bull for Gundanshola Depôt.	Obtained by way of exchange for another bull given in lieu giving Rs. 15 extra.	..	14 1 7	
North Malabar ..	2 Bullocks	Purchased in May 1890 ..	Per head.	7 10 9	

PART III.

Elephants gone off the list during the year.

District.	Names.	When purchased or otherwise obtained by Government.	Cost of Keep including servants and food.		How disposed of.
	Elephants.			Rs. A. P.	
South Coimbatore.	....	*Nil.*	..	..	
North Malabar ..	Lallameah	Captured in pitfalls in March 1889.	..	37 9 0	Ran away on the 23rd November 1890.
South Malabar ..	Elizabeth	Captured on the 10th January 1890.	..	30 7 6	Died on the 23rd November1890.
	Other cattle.				
Trichinopoly ..	4 Bullocks	April 1886 and March 1889.	Per head ..	6 12 4	Sold for Rs. 178-8-0 in April 1890.
Madura	The other bull from Gundanshola Depôt.	December 1889	..	14 1 7	Given in exchange for another bull received in lieu.
North Malabar ..	....	....	..	..	

OFFICE OF CONSERVATOR OF FORESTS, N.C.
MADRAS, 4th August 1891.

From

E. D. M. HOOPER, Esq.,

Acting Conservator of Forests, Northern Circle,

To

THE SECRETARY TO THE COMMISSIONERS OF LAND REVENUE.

SIR,

I have the honour to submit the Annual Administration Report of the Forests of the Northern Circle of the Madras Presidency for the year ending 31st March 1891, with the prescribed forms.

2. Having only assumed charge of the Circle three months subsequent to the period under report, I would crave the indulgence of Government for any shortcomings in the report which has been prepared in a very short time and with considerable difficulty on account of the vagueness of the information and inaccuracy of the figures reported to this office.

I have the honour to be,
Sir,
Your most obedient servant,

(Signed) E. D. M. HOOPER,
Acting Conservator of Forests, N.C.

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PROGRESS REPORT

OF

FOREST ADMINISTRATION IN THE NORTHERN CIRCLE, MADRAS,

FOR THE YEAR 1890-91.

CHAPTER I.

Introductory Remarks.

Mr. A. W. Peet, Acting Conservator of Forests, was in charge of the Circle for nearly the whole year. He took charge on the 1st April 1890 from Mr. J. S. Gamble, Conservator of Forests, on the latter proceeding to Europe on leave, and handed over to Mr. J. W. Cherry, Acting Conservator on the 25th March 1891.

2. Mr. Peet visited all the districts except Ganjam and Vizagapatam and spent 110 days in inspecting forests and District Forest offices besides 100 days on the Nilgiris.

Mr. Peet inspected also the District Forest offices of Kurnool, Bellary and Anantapur, and his reports thereon were duly communicated to the Collectors and the Examiner of Forest Accounts.

3. The District Forest offices of Kistna, Cuddapah, Bellary, and Anantapur were inspected by the Deputy Collectors of those districts and reports were recorded in—

(1) Board's Proceedings, dated 16th March 1891, Forest No. 233, Mis.
(2) ,, ,, ,, 18th April ,, ,, ,, 338 ,,
(3) ,, ,, ,, 16th March ,, ,, ,, 235 ,,
(4) ,, ,, ,, 16th June ,, ,, ,, 509 ,,

4. The following statement shows the time spent in camp by the District Forest-officers :—

Abstract A.—Distribution and Movements of Officers.

Districts.	Names of officers in charge.	Number of days in charge.	Number of days in camp.	Percentage of days in camp.	Reasons for absence of permanent officer.
Ganjam	Mr. A. W. Lushington, Deputy Conservator.	221	106	29	Transferred to Godâvari.
	Mr. J. S. Battic, Assistant Conservator.	144	113	78	
Vizagapatam ..	Mr. C. D. A. McArthy, Assistant Conservator.	365	215	59	
Godâvari ..	Mr. J. S. Battie, Assistant Conservator.	214	84	39	Transferred to Ganjam.
	M.R.Ry. K. Subbarayadu, Deputy Collector.	16	..	..	
	Mr. A. W. Lushington, Deputy Conservator.	64	11	17	On furlough from 30th January 1891.
	M.R.Ry. K. Subbarayadu, Deputy Collector.	46	..	..	
	Mr. E. D. M. Hooper, Deputy Conservator.	25	17	68	
Kistna	M.R.Ry. V. Alwar Chetty, Sub-Assistant Conservator.	334	249	75	Privilege leave for one month from 11th October 1890.
	Mr. W. E. Hall, Assistant Collector.	31	..	..	
Nellore	Mr. J. H. B. Brougham, Deputy Conservator.	365	102	28	
Cuddapah ..	Mr. F. A. Lodge, Assistant Conservator.	365	258	71	

ABSTRACT A.—Distribution and movements of officers—*cont.*

Districts.	Names of officers in charge.	Number of days in charge.	Number of days in camp.	Percentage of days in camp.	Reasons for absence of permanent officer.
Kurnool	Mr. G. Homfray, Assistant Conservator.	32	5	16	Officiating as Examiner of Forest Accounts.
	Mr. H. H. Ward, Sub-Assistant Conservator.	156	66	42	
	Mr. P. M. Luhsington, Assistant Conservator.	177	92	52	
Bellary	Mr. P. M. Lushington, Assistant Conservator.	180	72	40	Transferred to Kurnool.
	Mr. E. D M. Hooper, Deputy Conservator.	152	45	30	Transferred to Godávari.
	Mr. A. B. Jackson, Assistant Conservator.	33	17	51	
Anantapur .	M.R.Ry. T. M. Nallasawmy Naidu, Sub-Assistant Conservator.	350	200	57	Privilege leave for fifteen days from 22nd July 1890.
	M.R.Ry. B. Teperumal Chetty, Deputy Collector.	15	..	..	
Nílgiris	Mr. T Sheffield, Deputy Conservator.	297	230	77	Transferred to Coimbatore, North.
	Mr. R. W. Morgan, Deputy Conservator.	68	34	50	

CHAPTER II.

AREAS AND BOUNDARIES.

5. *Reserved Forests.*—Form 59-A gives the names and areas of the forests finally reserved under section 16 of the Forest Act. According to the previous year's report, the grand total for the whole circle on the 1st April 1890 was 826 square miles, but it should have been returned at 825 square miles. The mistake occurred in recording 54½ instead of 53½ square miles as equivalent to 34,258 acres in Nellore. There was also a slight difference of half a square mile under Godávari and Anantapur. These errors arose from the system of showing approximate area in square miles against each block instead of against the district total only, as now done.

It will also be observed that in this year a deduction of 10 square miles is shown against Vizagapatam as the result of a revised estimate; this correction should have appeared in the report for 1888–89, in accordance with Board's Proceedings, dated 31st January 1889, Forest No. 53, which is now complied with.

It is satisfactory to report that, during the year, blocks, covering a total area of 1,024 square miles, have been brought under reservation under section 16 of the Act. Thus the aggregate area on the 31st March 1891 is 1,839 square miles as will be seen from the following statement:—

District.	Area on 1st April 1890.	Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1891.	—
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	
Ganjam	18	67	..	85	
Vizagapatam	14	..	* 10	4	* Revised estimate of area.
Godávari	† 103	242	..	345	† Last year it was 103½.
Kistna	69	277	..	346	
Nellore	‡ 53½	115	..	168½	‡ Last year it was 54½.
Cuddapah	351	5	..	356	
Kurnool	..	242	..	242	
Bellary	3	74	..	77	
Anantapur	§ 14	..	..	14	§ Last year it was 13½.
Nílgiris	199½	2	..	201½	
Total ..	825	1,024	10	1,839	

6. *Form* 59-*B*—gives the names and areas of forests reserved under orders issued prior to the Forest Act, and which have not been added to since. They now exist only in the Cuddapah district and are the same as reported last year. Their total area is 12½ square miles.

7. *Form* 59-*C*—gives the names and areas of reserved lands. The list is a long one but the return must be maintained pending the final settlement of the blocks

proposed when they will be transferred to Form 59-A. The total area on the 1st April 1890 was 6,671 square miles, to which 214 square miles have been added by revision of estimated area and 77½ by the inclusion of fresh blocks, while 1,024 square miles have been transferred to Form 59-A and 66½ square miles were excluded by revision of estimated area or at the settlement. As in Form 59-A, slight alterations have been made in the totals of districts under square miles to make them agree with the totals under acres columns. This is best seen from the following abstract :—

District.	Area on 1st April 1890.	Added during the year. Fresh blocks.	Added during the year. Revised estimate of area.	Transferred to Form 59-A.	Excluded at settlement or on revised estimate of area.	Area on 31st March 1891.	Remarks.
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS	SQ. MLS.	SQ. MLS.	
Ganjam	527½	2½	..	67	..	463	
Vizagapatam	10	..	..	..	..	10	
Godáveri	917½	33	1	242	..	709½	
Kistna	615½	24	3½	277	25	341	
Nellore	544	..	3	115	5	427	
Cuddapah	1,668	..	..	5	..	1,663	
Kurnool	1,715	..	201	242	31½	1,642½	
Bellary	315	1½	5½	74	5	243	
	62½	..	..	..	..	62½	Leased forest.
Anantapur	262½	½	..	..	..	263	
Nilgiris	96	16	..	2	..	110	
	73	..	..	.	..	73	Leased forest.
Total ..	6,671	77½	214	† 1,024	66½	5,872	
	135½	.	..	..	..	135½	Leased forest.

The leased forests in Bellary and Nilgiris, which were shown hitherto under a separate Form 59-D, have been included this year under reserved lands as per G.O., No. 536, dated 10th July 1890.

8. *Form No. 59-D*—gives the names and areas of other forests. They are practically lands reserved under orders of the Collector and exist only in Vizagapatam. Their total area is 23 square miles, as returned in Form 59-E last year.

9. The following abstract gives the changes in different classes of forests as required by the Government of India :—

ABSTRACT B.—Classes of Forests.

Class of forest.	Area on 1st April 1890.	Added during the year.	Excluded during the year.	Difference.	Area on 31st March 1891	Source or cause of increase or decrease.
	SQ. MILES.	SQ. MILES.	SQ. MILES.	SQ. MILES.	SQ MILES.	
A. Reserved Forest under Act V.	* 825	1,024	10	+ 1,014	1,839	1,024 square miles were transferred from C. 10 square miles were excluded as per orders in Board's Proceedings, dated 31st January 1889, No. 53.
B. Under previous orders ..	12½	..	..	..	12½	
C. { Reserved lands	6,671	(a) 291½	(b) 1,090½	— 799	5,872	(a) Of this, 77½ square miles have been newly added during the year and 214 square miles represent addition due to revised estimate of area.
{ Leased forests	135½	..	..	..	135½	(b) Of this, 1,024 square miles were transferred to A and 66½ square miles excluded partly at settlement and partly by revision of estimated area.
D. Other forests	23	..	..	..	23	This is the area of certain special reserves in Vizagapatam and is the figure returned last year. It does not include the unreserved lands under the Forest Act, the total area of which is 17,951 square miles calculated from statement A of Board's Proceedings, dated 10th December 1890, No. 387.
Total ..	7,667	1,315½	1,100½	+ 215	7,882	

* This is the correct figure for 826 entered by mistake in the last year's report.

10. The following is a list of reserves proposed and notified under section 4 of the Forest Act during the year. It is here entered in continuation of paragraph 10 of the last year's report :—

List of lands proposed and notified under section 4.

96.	Nilgiris ...	Pillur slopes ... ... Pakasuramalai ... ... Pillur shola .. .. Kulear .. .. Sutton shola addition ... Kolakambe . ... Taimalai shola ... .. Tudúr shola ... ... Melúr slopes . ... Osatti ... ... Koderu ... . Kilúr ... ... Welbeck ... . Bigulihalla ... ... Yadakad .. .. Nanjanád ... ... Red Hills ... ... Keradmund	Notification No. 156 of 19th March 1890.
97.	Kistna ...	Extension of No. 2, Kottur reserve ..	Notification No. 181 of 22nd April 1890.
98.	Do.	Tummurukodu, block No. 2 . .. Do „ „ 3 ...	Notification No. 212 of 27th May 1890
99	Do. ..	Tangeda reserve	Notification No. 226 of 3rd June 1890.
100.	Do ...	Vedullapalli extension	Notification No. 232 of 4th June 1890
101.	Do.	Koppukonda	Notification No 289 of 30th June 1890.
102.	Ganjam ...	Tuluga .. .. Ampolu . .. . Singupuram .. .. Rana ... . Rahimanpuram .. .. Koderu	Notification No. 304 of 12th July 1890.
103.	Kistna .	Lam reserve	Notification No. 359 of 7th August 1890.
104.	Do. ...	Gollamoodi	Notification No. 366 of 7th August 1890.
105	Do. ..	Weld Reserve Block No. I ... ... Do. do. II	Notification No. 373 of 9th August 1890.
106.	Godávari ...	Papikonda	Notification No. 395 of 29th August 1890.
107	Kistna ...	Gopuvanipalem	Notification No. 490 of 6th November 1890.
108.	Bellary ...	Sunkadakal, East	Notification No. 538 of 8th December 1890.
109.	Kistna ...	Orr's Tope	Notification No. 8 of 5th January 1891.
110.	Bellary ...	Mundrigi No. 65 .. .. Vounahalli	Notification No. 104 of 11th March 1891.

11. The following abstract shows the comparison of forest areas with other areas in the district, the figures for the latter being taken from Board's Proceedings (Revenue Settlement, Land Records and Agriculture), No. 387, of 10th December 1890 :—

ABSTRACT C.—District Areas and Forest Reserves in square miles.

Districts.	Total area of the district.	Area excluding zamindaris, whole inam villages, and feudatory states.	Cultivated area.	Remainders.			Area of reserved forests, reserved lands and leased forests, &c., 59-A to D.	Percentage of column 8 to column 3 (forests compared with Government total area).	Percentage of column 8 to column 7 (forests compared with waste).
				Uncultivated and forest.	Area for which returns are not available.	Total of columns 5 and 6.			
1	2	3	4	5	6	7	8	9	10
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS		
Ganjam	8,369	2,257	578	847	832	1,679	548	24·2	32·6
Vizagapatam ..	16,992	1,855	210	198	1,447	1,645	37	1·9	2·2
Godavari . ..	7,864	3,826	1,489	1,865	472	2,337	1,054½	27·5	45·1
Kistna	8,397	5,481	3,049	2,406	26	2,432	687	12·5	28·2
Nellore	8,765	4,043	1,516	2,513	14	2,527	595½	14·7	23·5
Cuddapah	8,729	7,493	1,983	5,510	..	5,510	2,031½	27·1	36·8
Kurnool	7,769	5,925	1,777	4,148	..	4,148	1,884½	31·8	45·4
Bellary	6,130	4,687	2,371	2,316	..	2,316	382½	8·1	16·4
Anantapur	5,274	4,310	1,705	2,204	401	2,605	277	6·4	10·6
Nilgiris	957	957	324	633	..	633	384½	40·1	60·7
Total ..	79,246	40,834	15,002	22,640	3,192	25,832	7,882	19·3	30·5

12. The following statement gives the reserved forests constituted year after year since 1884–85.

ABSTRACT D.—Reserved Forests in square miles.

District.	During 1884–85.	During 1885–86.	During 1886–87.	During 1887–88.	During 1888–89.	During 1889–90.	During 1890–91.	Total.
Ganjam	..	..	..	8½	9¼	..	67	85
Vizagapatam	..	..	..	..	14	..	—10	4
Godavari	..	..	..	..	11	92	242	345
Kistna	..	..	..	13	6	50	277	346
Nellore	..	..	½	37½	3–35	*47½	115	168½
Cuddapah	4	—1½	269½	78	..	1	5	356
Kurnool	..	..	..	..	..	..	242	242
Bellary	..	..	..	..	..	3	74	77
Anantapur	..	6	8	..	..	..	..	14
Nilgiris	3½	90½	94	14	—2½	..	2	201½
Total ..	7½	95	372	151	6	193½	1,024	1,839
							—10	

* Last year it was wrongly shown as 48½ square miles.
Note.—The *minus* entries are in consequence of revised estimate of areas.

13. *Village forest.*—In Cuddapah it is said that statistics were collected for 300 villages, while in Nilgiris the village forests were, on receipt of orders contained in G.O., dated 13th May 1890, No. 328 Revenue, handed over for village use and control. In other districts practically nothing was done for the District Forest-officers were fully engaged on the important work of demarcation, and settlement. Now as definite orders have been issued in Government Order, dated 29th October 1890, No. 844, the idea of forming the so-called village forests will be given up entirely and the new policy adopted.

The system of treatment for adoption with regard to "kanchas" and "shekhadas" being grazing lands held upon supposed privileged tenure is still under the consideration of the Board of Revenue.

14. *Fuel and fodder reserves.*—Mr. Peet's report printed in Government Order, dated 25th March 1889, No. 228-228-A gives the views of the Collectors on this point. Nothing appears to have been done during this year towards the formation of fuel and fodder reserves. The same difficulty that has stood so long in the way of settling village forests has operated to prevent the formation of fuel and fodder reserves. The

question has now been definitely settled by the Government order above quoted deciding to look upon reserved forest as the natural source for produce of all kinds and to take the place of village and fuel and fodder reserves.

In Nellore, the undermentioned reserves are said to be along the railway line, but no supply is being made from them as the railway requirements are being met from the private forests of Venkatagiri and Kálahasti zemindaris.

1 Kanupur, east.	6. Vedicherla
2 „ west	7 Kadived.
3. Survipalle	8. Pidatalapudi
4. Gúdúr	9. Nellaballi.
5. Vendodu	10 Chillakur.

Under the orders of Government referred to, as deciding finally the extent to which reservation is to be carried, the following estimate was prepared district by district of the probable area still for selection and settlement as forest reserves sufficient to supply the agricultural and general community with domestic and agricultural produce as well as grazing. This is manifestly a rough estimate and subject to correction as settlement develops :—

	Square miles	
Ganjam	81	*Vide* Board's Proceedings, dated 28th April 1891, Forest No. 175.
Vizagapatam	8	
Godávari	50	
Kistna	150	
Nellore	800	
Cuddapah	1,600	
Kurnool	300	
Bellary	92	
Anantapur	60	
Nílgiris	11	
Total ...	3,152	

Settlement.

15. The following shows the progress of settlement, giving the numbers of blocks and the areas in square miles :—

Abstract E.—Progress of Settlement

Districts	Total under settlement on 1st April 1890						Notified for settlement during the year		Total	
	Blocks settled awaiting final notification		Blocks settlement pending.		Total					
1	2		3		4		5		6	
		sq mls.		sq mls		sq mls		sq mls		sq. mls
Ganjam	18	275½	14	236	32	511½	6	2½	38	514
Vizagapatam	..	..	5	10	5	10	.	..	5	10
Godávari	31	261	39	656½	70	917½ + 1	1	33	71	951½
Kistna	25	373½	7	242	32	615½ − 21½	10	24	42	618
Nellore	53	182	33	343	86	525 − 2	..	..	86	523
Cuddapah	55	1,027	35	460	90	1,487	..	..	90	1,487
Kurnool	..		15	1,715	15	1,715 + 169½	..	..	15	1,884½
Bellary	..		59	315	59	315 + ½	3	1½	62	317
Anantapur	17	120	22	142½	39	262½	1	½	40	263
Nilgiris	56	32	2	64	58	96	18	16	76	112
Total .	255	2,271	231	4,184	486	6,455 + 147½	39	77½	525	6,680

Districts	Finally notified during the year under section 16		Balance on 31st March 1891.					
			Settled awaiting final notification		Under settlement.		Total	
	7		8		9		10	
		SQ MLS		SQ MLS		SQ MLS.		SQ MLS
Ganjam	5	67	16	249⅛	17	197½	33	447
Vizagapatam	..	..	..	..	5	10	5	10
Godávari ..	28	242	11	303	32	406½	43	709½
Kistna	21	277	9	263	12	78	21	341
Nellore	51	115	27	199	8	209	35	408
Cuddapah	1	5	81	1,407	18	75	89	1,482
Kurnool	3	242	9	1,594½	3	48	12	1,642½
Bellary	23	74	13	67	26	176	39	243
Anantapur	..	..	19	128	21	135	40	263
Nilgiris	2	2	55	30	19	80	74	110
Total ..	134	1,024	240	4,241	151	1,415	391	5,656

* Revised estimate of area

Note.—The number and area of blocks as given in form 59-C have been adopted In certain districts the difference in the number of blocks between this abstract and the following notes, is due to the clubbing of two or more blocks in some cases before or after settlement '

16. *Ganjam.*—The Collector reports that the progress of forest settlement work in this district was unsatisfactory. It is attributed to there being no Special Forest Settlement-officer and to the want of time on the part of Divisional officers for the work. Inquiry has been held in the case of three reserves and the final settlement report has been submitted during the year. Of the eighteen blocks the settlement of which was practically completed before 1st April 1890, only five have been notified under section 16. The remainder are either under reference from the Board of Revenue to the Collector for further information or with the Board awaiting final notification.

Vizagapatam.—It is reported that the Principal Assistant Collector has visited all the five reserves and inquired into the claims presented, also that the final reports may be shortly expected. The delay is attributed to the employment of the Divisional officer's time on his other duties and partly to his absence from the district during a portion of the year.

Godávari.—In the greater part of the year, the Special Forest Settlement-officer was engaged in the Kurnool and Kistna districts; hence the settlement of only eight reserves covering an area of 181,220 acres is reported to have been completed during the year. The Forest Settlement-officer was also engaged in revising the records of a number of blocks returned by the Board. Twenty-eight blocks covering an area of 154,942 acres have been finally notified under section 16.

Kistna.—The progress in this district was good; twenty-one blocks covering an area of 177,203 acres have been finally notified, nine others were settled and reported on and 12 more are said to be in various stages of settlement. It is also stated that all the reports returned by the Board of Revenue for revision have been retransmitted with the necessary corrections.

Nellore.—The work in this district progressed rapidly; 51 blocks were notified under section 16, and, of the remaining 35, it is reported that there were only 3 reserves, viz., Sríharikot, Vedullacheruvu and Chemakurti pending with the Forest Settlement-officer, 13 with the District Forest-officer for verification and adjudication by the Civil Court and the rest awaiting notification with the Board.

Cuddapah.—Only one reserve, Vandadi Hills, covering an area of 3,390 acres, which was notified for settlement in 1884, has been finally notified under section 16 in this year. On the 1st April 1890, there were no less than 55 blocks settled and the settlement of 27 more was completed and the records of 15 others have been revised and resubmitted to the Board. The delay was caused by the want of maps to illustrate the final reports of the Forest Settlement-officer, and as there are 2 draughtsmen employed in the district it is believed that the work will now be expedited.

Kurnool.—The Special Forest Settlement-officer, Mr. Jagannadha Row Pantulu, was chiefly engaged in this district and completed the settlement of 12 out of 15

blocks notified under section 4. Only 3 of these, viz., Veligondas North, Veligondas South, and Sirvel, covering an area of 242 square miles, have appeared under section 16 and the others were pending final orders of the Board and Government. In the district report it is also stated that the District Forest-officer has selected several areas and that the submission of proposals regarding them was delayed for want of maps which are under preparation.

Bellary.—The work advanced well in this district also : 23 blocks, covering an area of 74 square miles, have been finally notified and the records of 13 others returned by the Board of Revenue have been revised and resubmitted.

Anantapur.—In this district there are 3 Divisional officers besides the Special Forest Settlement-officer who do the forest settlement work and yet the outturn has not been much. No reserve has been finally notified, but it is stated that the settlement of 23 reserves had been completed and final reports submitted for 4.

Nilgiris.—The chief work done in this district was the revision of the records of fifty Paranginad and seven Todanad reserves which had been returned by the Board. Two reserves have been notified under sections 16 and eighteen under section 4 ; of the latter the boundaries of 5 blocks have been inspected by the Forest Settlement-officer. It is explained that it was not possible to do more work as Mr. Cobb, the Forest Settlement-officer, only returned from Tanjore at the end of December 1890 and was employed on census and other duties till February.

17. *Cost of settlement.*—The following shows the cost incurred on account of the Special Forest Settlement-officers and their establishments from 1886–87.

(1) Mr. D. Jagannadha Row, Pantulu Garu (Godávari, Kistna and Kurnool), appointed on 20th October 1886 :—

Year	Cost.
	RS.
1886-87	7,409
1887-88	9,727
1888-89	9,818
1889-90	10,759
1890-91	10,480
Total	48,193

(2) Mr. I. Sarabhalingam Naidu Garu, appointed 14th December 1886, resigned, 9th October 1890.
Mr. Somasundra Shastri appointed, in Notification No. 408, 12th September 1890.
} Forest Settlement-officer, Bellary, Anantapur and Nellore.

Year.	Cost.
	RS.
1886-87	1,622
1887-88	10,760
1888-89	10,109
1889-90	10,301
1890-91	10,095
Total	42,887

(3) Mr. McMurray (Cuddapah) appointed 10th February 1890—

Year.	Cost.
	RS.
1890-91	12,074

This has been debited to the Southern Circle where this officer was mostly employed. It is scarcely possible to deduce the cost of settlement work from these figures, for, apart from large areas being practically settled and awaiting notification, it is not known how much has been the work of District officers.

Demarcation.

18. The following abstract shows the area demarcated according to the latest returns:—

Abstract F.—Area of Forests demarcated.

Districts.	Area in Square miles.		
	Up to 31st March 1890.	During 1890-91.	Total.
Ganjam	154	..	154
Vizagapatam	14	..	14
Godávari	387	147	534
Kistna	374½	14	388½
Nellore	410½	22½	433
Cuddapah	303½	63½	367
Kurnool	1,714½	..	1,714½
Bellary	242	15½	257½
Anantapur	145	69½	214½
Nílgiris	290	11	301
Total ..	4,035	343	4,378

19. The following abstract shows the length demarcated during the year, in running miles:—

Abstract G.—Demarcation work done in 1890-91.

District.	Preliminary.			Permanent.			Reclearing old lines.		
	Miles.	Rate.	Cost.	Miles.	Rate.	Cost.	Miles.	Rate.	Cost.
1	2	3	4	5	6	7	8	9	10
		Rs. A. P.	Rs.		Rs. A. P.	Rs. A. P.		Rs. A. P.	Rs. A. P.
Ganjam ..	..	..	..	45	16 0 0	720 0 0	150	11 1 6	1,664 0 0
Vizagapatam ..	..	..	..	..	..	..	16	5 7 9	87 12 0
Godávari ..	47	4 8 10	214	92	12 4 4	1,129 0 0	145	4 15 1	717 0 0
Kistna ..	5	11 6 4	57	70	12 2 3	850 0 0	24	10 13 4	260 0 0
Nellore ..	..	..	..	36	4 14 5	176 6 0	..	..	..
Cuddapah ..	153	0 1 6	14	170	12 1 4	2,054 0 0	15	2 6 5	36 0 0
Kurnool ..	20	1 9 7	32	7	20 14 10	146 8 0	26	3 13 6	100 0 0
Bellary ..	..	..	..	40	2 1 2	83 0 0	..	..	..
Anantapur ..	20	2 15 2	59	299	6 2 7	1,843 0 0	{ 128	3 15 9	510 0 0
							{ (b) 14	4 1 2	57 0 0
Nílgiris ..	..	..	..	(d) 53	14 6 7	764 0 0	264	7 6 0	1,946 0 0
Total ..	245	..	376	812	..	7,765 14 0	782	..	5,377 12 0

District.	Fencing or ditching.			Marks or posts erected.			Total cost of the district.	Remarks.
	Miles.	Rate.	Cost.	Number.	Rate.	Cost.		
	11	12	13	14	15	16	17	18
		Rs. A. P.	Rs.		Rs. A. P.	Rs. A. P.	Rs. A. P.	
Ganjam ..	..	..	..	342	0 4 11	104 0 0	2,488 0 0	Distances recorded omit fractions of miles.
Vizagapatam ..	..	..	..	..	..	..	87 12 0	It is believed that the difference between the total cost here shown and the audited figures under this head of expenditure is due to the exclusion from this form of charges other than for labour and materials, thereby cost of special establishment is not debited to the various works.
Godávari ..	5	33 6 5	167	419	0 11 4	296 0 0	2,523 0 0	
Kistna ..	..	..	..	{ 459	0 7 0	200 0 0	} 1,383 0 0	
				{ (a) 58	0 4 5	16 0 0		
Nellore ..	..	..	..	472	0 4 2	122 8 0	298 14 0	
Cuddapah ..	3	52 0 0	156	1,329	*	*	2,260 0 0	
Kurnool ..	..	..	..	179	†	†	278 8 0	
Bellary ..	..	..	..	583	0 2 0	72 0 0	155 0 0	
Anantapur ..	6	31 8 0	189	{ 1,838	0 3 2	363 0 0	} 3,172 0 0	
				{ (c) 744	0 3 1	151 0 0		
Nílgiris ..	..	..	..	5,586	16 1 6 per 100	899 0 0	3,609 0 0	
Total ..	14	..	512	12,039	..	2,223 8 0	16,255 2 0	

(a) Repairing old marks.
(b) Repairing boundary walls.
(c) Repairing cairns and pillars.
(d) Including posts.
* Included in the cost given under permanent demarcation.
† Do. do. preliminary demarcation.

20. *Ganjam.*—The district report states that the work done was not satisfactory as no reserve was completely demarcated with posts, &c. The actual outturn was as follows:—

Nature of work	Miles	Cost	Rate		
		Rs.	Rs.	A.	P.
Permanent	45	720	16	0	0
Boundary posts	342	104	0	4	11
Reclearing	150	1,664	11	1	6

Vizagapatam.—Peddapalle reserve boundary, which was cut in 1888-89, was found to be very inaccurate and overgrown in most places. It was consequently redemarcated with a 10-feet line. No marks or posts were put up.

	Miles	Cost			Rate			
		Rs.	A.	P.	Rs.	A.	P.	
Length	16	87	12	0	5	7	9	per mile.

Godávari.—The report contains no remarks. The following statistics are available:—

	Miles	Cost.	Rate		
		Rs.	Rs.	A.	P.
Preliminary	47	214	4	8	10
Final	92	1,129	12	4	4
Fencing with thorns	5	167	33	6	5
Reclearing	145	717	4	15	1
Posts ... ... No.	419	296	0	11	4

Average cost per mile is Rs. 18, exclusive of fencing and reclearing, this being the same figure as given in last year's return.

Kistna.—Lines running through hilly and jungle tracts were cleared to a width of 10 feet, loose stones were removed and stone cairns 5 feet high were erected. Babul (*Ac. Arabica*) reserves in the Guntúr range were demarcated with stone posts 5 feet high with a broad-arrow mark cut at the head. In Bápatla and Bandar ranges where stone is not available, the reserves have been demarcated with palmyra posts numbered. In Palnád the work has not been satisfactory, but the taluk is too large to be controlled by a range officer who is only a forester on Rs. 20 per mensem. On the whole, much good work has been effected, though the cost for reclearing appears high.

Nellore.—The outturn is less than in the previous year. The district report is again silent as to the details of the work performed, but mentions the fact that range officers were largely employed on work other than demarcation.

Cuddapah.—The district report states that 'guards and watchers kept lines clear in Kódúr and Rájampet ranges. In other charges the work was performed by the same agency supplemented by hired labourers. Seedlings of *Corypha clata* were put down at 491 angles on the reserve boundaries in the Kódúr range.

The work performed included the following:—

—	Miles	Cost	Rate		
		Rs	Rs	A	P
Final demarcation with cairns (1329) ..	170	2,054	12	1	4
Preliminary	153	14	0	1	6
Fencing	3	156	52	0	0
Reclearing	15	36	2	6	5

It is also reported that 76 chains of aloe fence were put down, but the cost was not completely charged off in the accounts of the year under report, while the dryness of the season caused great mortality among the plants which must be replaced in large numbers.

Kurnool.—The work done was as follows:—

Twenty miles in Pattikonda were cleared and posts erected to the number of 179 for Rs. 32. Four miles of boundary and 3 miles of interior lines in the Bairnuti

section of the Nandyál block were cleared for Rs. 146-8-0, also twenty miles of the boundary of the Márkápur block were recleared at the cost of Rs. 100, and it is interesting to record that six miles of boundary in the Veligonda blocks were cut free of charge; apparently in return for permission to remove the produce cut.

More clearing would have been done had an earlier decision been come to as to the reservation of the Terai below the Nallamalais, as the upkeep of the old broad line cut in 1883 will be unnecessary now the boundary is to come well out to the plains.

Bellary.—But little was done. Forty miles of line ten feet wide were cleared in four reserves of the Kúdligi range at a cost of Rs. 83. Stone cairns to the number of 583 were placed around certain reserves in the Bellary taluk at a cost of Rs. 72.

More work would have been done, but for settlement and census work.

Anantapur.—Up to the close of the year 43 blocks, comprising 215 square miles, have been demarcated at a cost of Rs. 6,175. During the year the work done was—

	Rs.	A.	P.	Rs.	A.	P.
Preliminary, 20 miles at	2	15	2	59	0	0
Permanent, 299 miles at	6	2	7	1,843	0	0
Reclearing, 128 miles at	3	15	9	510	0	0
Fencing, 6 miles at	31	8	0	189	0	0
Posts, 2,612 cost		...		514	0	0

This district shows the best outturn of the circle.

Nilgiris.

—	Miles	Cost.	Rate
		Rs	Rs. A P
Demarcation including posts	53	764	14 6 7
Posts renewed .. .. No	5,586	899	16 1 6 per 100
Reclearing	264	1,046	7 6 0

The district report mentions that the original demarcation was not done in a substantial or permanent manner and the lines have to be recleared and fresh posts erected in place of those decayed.

The length of line cleared would have been much greater had the settlement progressed more rapidly. It is becoming more generally recognised that systematic line clearing beyond making a thin line between cairns erected far from each other, where cultivation approaches the proposed line, is unnecessary, until the boundary is fixed after completion of settlement.

Range officers were very much occupied in the details of settlement and this is an additional reason for the outturn of line clearing being so small.

CHAPTER III.

Surveys and Working Plans.

Surveys.

21. *Ganjam.*—The boundaries of the undermentioned blocks with their enclosures have been surveyed departmentally:—

1. Dimrijholi.
2. Gullery.
3. Gogodo.
4. Chodiapalli (partly)
5. Kaliamba (partly).
6. Teliki (,,).
7. Birkot in Darpangia reserve.
8. Balkia in Rambha reserve.

The object of the survey was to illustrate forest settlement work, but it would seem to be a needless enhancement of the cost of settlement to make such surveys when merely proposing blocks for settlement except in disputed tracts, since experience proves that our proposed boundaries are seldom adhered to subsequently. On the other hand, the survey of areas in accordance with finally sanctioned settlement notifications is a matter of considerable importance.

Vizagapatam.—No work has been done with the exception of small surveys of the Pálkonda Agency reserves by the Forest Range-officer.

Godávari.—The final settlement reports have been illustrated by sketch-maps for the most part, but some of the blocks were surveyed by a surveyor temporarily employed.

Kistna.—The survey of the Kondapalli reserve is in progress.

Nellore.—The survey of Srîharikót was taken up at the close of the year to illustrate the final report of the Forest Settlement-officer. Twenty-five and one half miles were surveyed and the work is still being carried on.

Cuddapah.—The only survey work carried out was in block II of Balapalle reserved forest, in which compartment lines were cut to the length of 15 miles.

Kurnool.—A surveyor and draughtsman on Rs. 50 is employed in this district. The outward boundaries of Cumbum, Márkápur, Nandikótkur and South Dhone reserves have been surveyed for the purposes of settlement, and maps of several others were corrected. The surveyor was absent on sick leave for three months, and the compilation of the maps was done in the Conservator's office.

Bellary.—Only one reserve, Boodikonda, was surveyed by a range officer in order to submit a map with the notification proposing it for settlement. The survey work undertaken on account of the Forest Department by the Revenue Survey Department in 1889-90 was continued up to June 1890. The work done was the survey of a series of blocks under settlement in the Adóni and Alúr taluks, and proof maps of some of the reserves were received during the year under report and are being verified.

Anantapur.—Two surveyors were employed departmentally and they surveyed four reserves as follows :—

1. Ramgiri.
2. Chillavaripalle (partly).
3. Jakkalacheruvu.
4. Peddadoddi.

and 16 others which were surveyed are being mapped by the Survey Department.

Nilgiris.—It is reported that no survey was done, there being no special establishment employed for the purpose.

Working Plans and Plans of Operations.

22. *Ganjam.*—No working plans have been formulated for the forests in this district. The plan of operations in force was objected to by Mr. Peet when in charge of the circle, and he put a stop to it because it was wasteful of good timber and caused loss of revenue. He arranged that marketable timber should be removed from unreserved lands and operations in the forest reserves confined to removal of the large quantities of timber now lying felled in them, while working plans should follow after preparing an estimate of standing growth.

Vizagapatam.—Nothing was done. The District Forest-officer was engaged in making fresh selections for reserved forests and was unable to take up the subject.

In the *Godávari* district the changes of the District Forest-officers interfered with the preparation of fresh working plans. A commencement was made towards securing statistics of demand and supply for the different reserves by debiting and crediting expenditure and revenue to the particular forests in the accounts as far as possible. Restriction was imposed on the cutting of immature timber from the reserved forests in Bhadráchalam, which have hitherto been fully cut into to supply the Rajahmandri market.

Kistna.—The District Forest-officer has prepared and sent in plans of operations for all reserves and they are now for consideration.

Nellore.—The District Forest-officer reports that though no working plans have been prepared, fellings are already restricted to fixed areas in the reserved forests and subject to the reservation of trees selected and marked by the range officers. An abnormal number of deaths of casuarina trees interfered with the execution of the arrangements in the plan for working the casuarina plantation. In Srîharikót the plan was adhered to and the yearly cutting made in accordance with its provision.

In *Cuddapah*, the Balapalle felling was carried out in accordance with the working plan, the yield in engine fuel and smaller material being at the rate of 16 tons per acre. A second block is now being opened out and a plan for its working is under preparation, while systematic working is also carried out in various small blocks including the Kĕdúr red sanders plantation.

From *Kurnool*, it is reported that no working plans have, as yet, been attempted. Difficulties in the way of work in this district are very great from the unhealthiness of its forests and both the District Forest-officer and his Range officers have their time fully occupied by selection and ordinary reserve work at present. The Nallamalais being now finally settled, the work of controlling the timber felling over selected areas will be seriously commenced, while the fuel-cutting along the line of railway in the more accessible forests will be arranged systematically.

Bellary.—The only working plan now in existence is that for improvement thinnings at Sandúr, but this has not been worked up to in the past. The District Forest-officer suggested an alteration and proposed to cut in the Rámandrug range alone and to go over each compartment thoroughly, and this was sanctioned by the Conservator, and cuttings were stopped in the Donemalai range and in the North-eastern ranges. Even then the plan could not be worked up to, as labour is not to be depended upon for departmental fellings, and it is proposed to reconsider the plan of treatment for these leased forests.

Anantapur.—The plan of operations for the Khojjapalle reserve was not fully carried out as the range officer's time was occupied with demarcation and settlement.

Nílgiris.—The District Forest-officer writes:—"Mr. Gamble's inspection note, dated 6th April 1887, contains the working plan of operations for the marginally-noted reserves. Black Bridge has not yet been divided into compartments and the working plan has not been adhered to."

Cairn Hill working circle	
Aramby	,,
Governor's Shola	,,
Coonoor Peak	,,
Bleak House	,,
Bandy Shola	,,
Black Bridge	,,
Ghât Reserve	,,
Barliyár	,,

"In consequence of the orders of Government contained in Board's Proceedings, dated 7th January 1889, No. 6-F., the working plans framed for the other plantations could not be strictly adhered to. It was impossible to sell the previous year's fellings owing to the minimum price fixed by Government having been too high. To have felled the compartments in accordance with the provisions of the working plans would have entailed the accumulation of an immense stock of fuel which would only have rotted in the forest.

"The accompanying statement marked B shows the yield of each compartment felled during the year. The natural sholas within the settlements of Ootacamund and Coonoor were not worked owing to the orders of Government restricting the working plan of sholas within those settlements, but creepers were cut and "Strobilanthes" and other undergrowth removed from some of them.

"Wattle was thinned out in the Brooklands and Marliamund plantations according to the working plan framed by Mr. Gamble. The thinning in Marliamund was completed during the year under report instead of in 1891-92, as the Municipal Council insisted on its being done on sanitary grounds. The town shola and ghât reserves in the Coonoor Municipality were also thinned for similar reasons, the cost of the work and the revenue realized appear under works of improvement.

"*Plans of operations*.—Paragraph 76 of the Forest Code was not introduced during the year. The Forest Range-officer, Coonoor, has been asked to survey the planted portion of the Black Bridge reserve, and as soon as this is done, a working plan will be framed for this and the Rallia reserve."

23. The foregoing remarks will show that the few working plans prepared are for the most part not being adhered to at present. In some cases they were scarcely suitable and have required amendment in others, the fewness and ignorance of range officers and the all-absorbing work of selection of forests and of forest settlement have prevented the plans being carried out. Nor is it likely that any real start will be made in this direction for the next two years beyond the gathering of statistics and general study of the various forest reserves.

CHAPTER IV.

Protection and Improvement.

(a) Establishment and Ranges and Beats.

24. *Establishment.*—The following abstract shows the sanctioned establishment of the year compared with that of last year :—

—	For the year 1889–90	For the year 1890–91	Difference
Permanent			
Conservator	1	1	..
Deputy Conservators	4	4	.
Assistant Conservators	7	8	+ 1
Sub-Assistant Conservators	6	6	.
Rangers	24	24	.
Foresters	49	50	+ 1
Forest Guards	348	359	+ 11
Clerks	35	35	..
Peons	96	100	+ 4
Total ..	570	587	+ 17
Temporary			
Surveyors	8	9	+ 1
Draughtsmen	7	7	..
Foresters	5	11	+ 6
Overseers	1	1	.
Depôt Gumastahs	27	52	+ 25
Watchers	82	253	+ 171
Tannah Peons	268	297	+ 29
Lascars	16	14	— 2
Maistries	5	3	
Gardeners	105	122	+ 17
Mahouts and Kavadies	14	8	— 6
Boat syrang	3	3	.
Clerks	19	13	— 6
Peons	38	44	+ 6
Total ..	598	837	+ 239

The return shows an increase during the year both in the permanent and temporary staff. This was absolutely necessary for the protection of the forests and in the interests of revenue. Proposals for a large addition to the strength of the establishment are before Government.

The superior staff consisted of—

Name	Rank	Date of appointment to service
A W Peet	Acting Conservator ..	1871
F D'A Vincent	Deputy Conservator, II Grade	1874
E D M Hooper	Do II ,,	1874
J H B Brougham	Do IV ,,	1864
T. Sheffield	Do IV ,,	1860
A W Lushington	Do IV ,,	1882
G Homfray	Assistant Conservator, I ,,	1882
J. S Battie	Do I ,,	1879
F A Lodge	Do I ,,	1883
H T D Sweet	Do II ,,	1884
P M Lushington	Do II ,,	1886
C D A McArthy	Do III ,,	1888
A B Jackson	Do III ,,	1889
R McIntosh	Do III ,,	1891
Sub-Assistant Conservators		
T M Nallasawmy Naidu	Sub-Assistant Conservator, I Grade	1876
V. Alwar Chetty	Do do I ,,	1886
T N Hearsey	Do do II ,,	1887
H H. Ward	Do do II ,,	1881
T. G A Goudoin	Do do. II ,,	1872

Of this staff Mr. Vincent, who had been on leave without pay for over 4 years, resigned his post with effect from the 13th September 1890, and it is not known whether Mr. Sweet, who has also been on leave for over 3 years, will return to the service. Messrs. G. Homfray and A. W. Lushington proceeded on leave to Europe on one year's furlough on medical certificate.

Mr. E. D. M. Hooper, who had been employed in the Southern Circle since 1888, returned on the 27th September 1890 to the Northern Circle.

Mr. R. McIntosh, one of the trained officers from England, was brought on the list of the superior staff in January 1891 and posted to the Cuddapah district as a supernumerary.

25. *Ranges and Beats.*—The scarcity of subordinate officers has again resulted in a large proportion of range charges being held by foresters and this militates against successful administration.

(b) General Protection and Breaches of Forest Law.

26. A comparison between the forest offences reported for each of the past two years is here shown :—

Abstract H.—Forest Offences (Form 63).

Year	Brought forward from previous year	Cases added	Cases disposed of							Balance
			Cases	Persons	Percentage of cases withdrawn	Percentage of cases compounded	Amount realised	Percentage of cases convicted	Percentage of cases acquitted	
							Rs			
1889-90	281	1,355	1,478	3,563	*Nil*	35	4,744	46	19	* 158
1890-91	145	1,905	1,644	3,885	.	33	5,085	51	16	406

* It is explained by the District Forest-officer, Ganjam, that in this total 13 cases were included by mistake

The total number of cases increased from 1,355 to 1,905; the percentage of convictions rose from 46 to 51 per cent., taking compounded cases as acquittals. On the other hand taking the percentage of convictions to the number of cases prosecuted it has risen from 70 to 76. The percentage of compounded cases to total cases of the year was 27 per cent. as against 32 per cent. the previous year.

27. *Ganjam.*—The Collector in the Forest report remarks as follows :—

"The great delay on the part of Magistrates in disposing of forest cases is much to be regretted. It has with other cases encouraged the illicit removal of timber from the forests. Steps will be taken to see that all unnecessary delay is avoided in the future."

It is satisfactory to see that the Collector is alive to the necessity for putting a stop to the unsatisfactory delay in the disposal of Forest Magisterial cases, but it is not explained in the body of the report how it came to pass that of the 13 cases tried conviction was obtained in only four cases, but whether this arose from careless prosecution or the non-acceptance of the evidence by Magistrates, it is a serious matter calling for the closest supervision on the part of the Collector and his District Forest-officer, for it means the ruination of forest. It is further reported that the state of forest protection in Goomsur is anything but what it should be.

It is stated also that the entry in last year's annual report of thirteen compounded cases pending was an error, and that there were no cases other than on the files of the Magistrates. It is also remarked that the—

"Wholesale way in which cases have been compounded has had a by no means inconsiderable effect in encouraging illicit removals: the District Forest-officer now only compounds the very petty cases. In Goomsur where the illicit removal of Government timber is a regular trade, a man does not mind paying up; he is very seldom caught and the fine is soon recouped. Whereas a man will generally try to avoid a second conviction. To show that compounding cases has little or no effect in stopping theft, I might state that a man was caught a second time within a fortnight of an offence committed by him having been compounded. He is now in prison, and I am sure if the case had been compounded the effect amongst the surrounding villages would have been *nil*."

Vizagapatam.—The return from this district shows the largest number of cases detected and convicted or compounded. One case is mentioned in which the offenders, nine in number, committed an assault on 2 fire patrols and a Forest guard; 8 were fined Rs. 50 each and one sentenced to one month's imprisonment. The offenders are said to be rich men.

Godâvari.—The increase in the number of offences occurred in the Bhadráchalam Sub-Division for the most part and were cases of timber cutting in excess of quantities sanctioned in the permits or of felling without sanction. The offenders were the resident timber dealers who supply the Rajahmandri market. These frauds have been dealt with magisterially, and it is anticipated that with the better control now instituted they will be much reduced.

Kistna.—No remark appears called for.

Nellore.—The total number of offences is small. It is satisfactory to note the high percentage of convictions obtained which shows that care has been taken in prosecuting cases and protection has been efficient.

Cuddapah.—The number of forest offences is comparatively large, but the percentage of convictions is high. It is reported that increased protection can only result from the employment of a larger protective staff.

Kurnool.—Conviction was obtained in 117 cases, while in 85 cases the offenders were acquitted. This comparatively large number of acquittals is not remarked on in the District report, but it is probably due to there being no evidence of the actual commission of the offence in the forest, and it being necessary to rely upon a chain of circumstantial evidence which the Magistrates hesitate to accept. This is the only result that can be expected while our patrolling staff is so weak and our range charges so large. It is explained that every opportunity was given to offenders to compound in petty cases when the produce concerned was less than Rs. 20 in value, or of valuable species of timber. A village officer who was authorised to issue licenses is reported to be under trial for fraud and it is mentioned that wood of valuable trees is cut up and removed stealthily at night under cover of head-load permits *for firewood.* Two cases are referred to wherein Chentzus assaulted the Forest guard who detected them in the commission of forest offence, and in one instance the delinquent drew a knife on the guard who arrested him.

In *Bellary* forest offences were few. The chief delinquents were coolies resident of the cantonment who visited the neighbouring hill reserves and stole grass and "*Cassia*" bark. They proceed to the hills in gangs and when detected by the solitary guard promptly decamp and their subsequent identification is difficult. Hence the acquittal of 103 people in 23 cases.

Anantapur.—In 69 cases out of 75 a conviction was obtained which is highly satisfactory.

Nilgiri District.—The District report states—

"The small number of cases prosecuted is not really any indication that the Forest Laws are respected; on the contrary it is a proof of the worthlessness of the establishment maintained, for I have convinced myself by personal inspection that the inhabitants of this district are not more law abiding than those of others As a matter of fact unauthorized grazing, theft of produce, the firing of forests, &c., is systematically carried out, and nothing but the most drastic punishment will put a stop to it."

28. Remarking generally on the forest offences of the year, it may be said that from the strange differences in the total cases reported in various districts there is room to doubt whether the returning of only few offences is a criterion of the efficiency of the protection afforded to the forests. There is no reason why Vizagapatam should have no less than 620 forest criminals and the adjoining Godávari district only 127. Cuddapah shows 828 persons charged, while Nellore has only 201. There is reason to believe that only a small proportion of the forest offences are ever reported.

(c) Forest Fires and Fire-Protection.

29. Form No. 62 gives the details of fire-protection. The following abstract give a comparative statement of the results in two years with the total cost on fire-protection up to date.

ABSTRACT I.—Fire-protection (see Form No. 62) in square miles

1889-90					1890-91						
Total cost up to 31st March 1890.	Area attempted	Area burnt.	Percentage protected	Average cost per square mile protected	Area attempted	Area burnt	Percentage protected	Average cost per square mile protected	Total cost during year 1890-91	Total cost up to 31st March 1891
RS	SQ MLS	SQ MLS.		RS	SQ MLS	SQ MLS		RS A P	RS	RS.
88,477	2,700	200	92 5	6½	2,883	201	93	7 2 9	19,239	1,07,716

30. *Ganjam.*—The area shown as under fire protection includes the whole of the forest reserves or 331,505 acres, but it is explained that the fire-protection afforded is limited to the entertainment of the services of fire-watchers, while the area burnt is an estimate of the extent of fires that occurred up to 31st March 1891. It is regrettable that in the Berhampore range fires extended over nearly 30 per cent. of the forests under protection for the past six years.

Vizagapatam.—Fire-protection is reported as successful in the areas under previous protection which were not extended in the year under report.

Godávari.—In this district, protection is reported to have been successful; only 500 acres having been burnt out of over 126,000 acres, while the charges for protection were very small and confined to payment of watchers' wages.

Kistna.—The areas under previous protection were successfully protected in the year under report. An attempt to save three new blocks without special precaution was unsuccessful but the failure involved no expense.

Nellore.—The area of the Veligonda forests under special protection from fire was largely added to during the year and a comparatively small area only was burnt.

Cuddapah.—The return of areas burnt is for the fires that occurred from 1st April 1890 to the 31st March 1891. The opening figures of the statement show that a total area of 408,142 acres were protected on 31st March 1890, whereas the closing balance shown on last year's report was 132,114. The difference 23,972 is accounted for by our having in the previous year taken credit for certain blocks in the Seshachellam and Lankamalai reserves as well as in the total area of those reserves, thus counted twice over.

Kurnool.—The Atmakúr-Velgode block first protected in 1884 has apparently been abandoned. It is reported that the Southern Veligondas were not protected, because grazing was allowed, but the area under protection was largely increased elsewhere, especially near the railway in the Nallamalai hills and the Western Veligondas.

Bellary.—A commencement of fire-protection was made in the Adóni taluk in the Ganekallu reserve partly with a view to providing grass for the cattle in the neighbouring villages in case the monsoon were delayed. The reserve was saved from fire, but it has not been reported whether the saved grass has been of use.

The form shows two blocks—Hospet and Gundu—as apparently abandoned but in reality they are merged in the entries for the Sandúr leased forests which when first brought under fire-protection in 1883–84 were divided into certain blocks. These divisions were subsequently done away with.

The Ramandrúg range is reported to have escaped burning, up to 31st March but 30 per cent. of the north-eastern range and 60 per cent. of the Donimalai range were burnt. This is much to be regretted The District report attributes the fire to high wind taking lighted materials across badly traced fire-lines, but the occurrence has not been fully reported The circumstances of the season were exceptional. The commencement of fire-tracing was delayed by the late north-east monsoon and the impossibility of getting labour at the end of the year because of the triennial festival at Sandúr; while the services of the Range-officer were employed on census work and also on forest settlement duty at a very critical time. The reserves under special

protection in the Kúdligi range were saved from fire and a very large area of waste lands is reported also to have been protected.

Anantapur.—Fire-protection is reported to have been entirely successful in all areas previously protected, and an additional area of 23,200 acres were brought under protection at slight extra expense.

Nilgiris.—The area shown as protected differs considerably from that of previous returns. Whereas formerly 12,082 acres of Naduvatam sholas were protected, during the year only 3,938 acres are so shown, and there is a reduction of the protected area of the South-east Wynaad reserve from 3,500 to 2,776 acres. On the other hand, other areas are largely increased whereby the total protected area is brought up to 223,087 acres. Accidents were few and did not extend over large areas except in the case of one fire which burnt over 40,000 acres of Mudumalai and of another which covered 7,000 acres of Benne plantation for the first time brought under protection.

31. Judging from the reports it may be assumed that fire-protection was on the whole fairly successful, the percentage protected being 93 at a cost of 2·14 pies per acre. It would be better if areas under special protection, involving continuous outlay of capital expenditure, were separately accounted for, the present system of grouping saved waste areas very roughly estimated along with surveyed areas of reserved forest or plantations which represent large amounts of expended capital, is confusing and destroys the value of the return. It would be advantageous also if extensions of specially fire-protected areas were arranged before the working season commences. This will now be done under the new system of budgeting in detail lately laid down by the Land Revenue Commissioners.

(d) Grazing.

32. The revenue from this source during the year under report amounted to Rs. 81,270 as against Rs. 79,470 in the previous year. From the district returns no uniform system appears to have been adopted for the recovery of the dues. In some, throughout whole taluks the reserved forests were closed to grazing, while in others it was unchecked both in reserved forests and reserved lands. The recent order of Government to provide grazing for the cattle of the country within the areas of reserved forests will lead to more uniformity. It is noteworthy that there is no mention of complaints regarding exclusion of cattle from forests in any one of the district reports.

33. *Ganjam.*—No revenue was received from this source. The order preventing grazing in reserved forests is declared to be treated as a dead letter, and the Collector proposes to close some of the blocks and to charge fees for grazing in others.

Vizagapatam.—In the Pálkonda range, the reserves are reported to have been closed to grazing. In the Sarvasiddhi range, the Peddapalle reserve was open to limited grazing at half rates and it was eagerly sought for. In Golgonda, the reserves though similarly opened for grazing were not resorted to. The total fees recovered in the district amounted to only Rs. 102.

Godávari.—Free grazing was allowed to the jungle tribes in the Bhadráchalam taluk. Certain small reserves, chiefly in Rajahmandri and Ellore, were closed to grazing, while half fees were levied in twenty-five reserves in Yernagúdem, Ellore, Narsápur and Peddápuram taluks, resulting in the recovery of a small revenue amounting to Rs. 5,527, as against Rs. 2,000 in the previous year.

Kistna.—A restriction on the rates to be charged by grazing contractors, whereby the fees leviable under the rules, section 26 of the Forest Act, were not to be exceeded, was the cause of a decrease in revenue to the extent of Rs. 7,371, only Rs. 41,170 being recovered as against Rs. 48,541 in the previous year. The Collector reports that departmental collection of grazing dues is being commenced experimentally in fourteen villages, to see if it be more profitable than the contract system. An additional advantage anticipated is that the grazing will thereby be regulated, the forests, at present, being damaged by excessive grazing and it is hoped that the detection and punishment of offences, such as goat-grazing and the lopping of trees, will be rendered easier. At the same time the contract system being an established one, it is proposed to replace it only gradually if the experiment prove a success.

Nellore.—The sum of Rs. 13,075 was collected on the "kancha" system. It is expected that revenue from this source will be increased when such lands, outside reserved forests, are brought under the category of reserved lands prior to their becoming reserved under the Forest Act.

Cuddapah.—The system in force is not changed, but the revenue has increased owing to better supervision and control over the Váyalpád side of the Seshachellam hills and to the increase in the number of foreign cattle. The chief trouble with Nellore cattle is that they spread over the area intended for the free grazing of the village cattle. The revenue from grazing and sale of grass has risen from Rs. 3,814 to Rs. 7,629.

Kurnool.—The revenue recovered was Rs. 9,021, as against Rs. 5,419 in 1889–90 and Rs. 6,233 in 1888–89. In the Nallamalais and Veligondas half rates were charged. An increase occurs in the various ranges except in Márkápur, where the decrease is attributed to changes of Range officers and partly to the fact that ryots drive their cattle through to the Nandikótkúr side which has the best grazing.

Bellary.—A return submitted from this district gives the area closed against grazing as 115 square miles out of 2,320 returned as the area of waste land. One-half of the closed area comprises the Adóni reserved forest lands, 31 square miles are closed in Hospet taluk, the rest being the Bellary taluk hills.

Grazing was allowed over 131,305 acres or 205 square miles on payment of fees at various rates according to the circumstances of each reserve. Goats and sheep were, however, excluded from them all. The revenue recovered amounted to Rs. 1,074 against Rs. 878 in the previous year. One of the protected blocks conveniently situated near the cantonment was handed over to the Commissariat for the removal of its crop of grass, on payment of Rs. 200.

Anantapur.—Out of 50 blocks containing 276½ square miles, only 21 blocks containing 205¾ square miles were opened for grazing. It was proposed to register 18,813 head of cattle for 131,700 acres or 205¾ square miles, but applications were received only for 10,974 heads as follows:—

Bullocks and cows	10,362
Buffaloes	612

This gave 7 acres each head.

Fees collected were as per Collector's report—

	Rs.	A.	P.
10,362 bullocks and cows at As. 2	1,295	4	0
612 buffaloes at As 4	153	0	0
Total ...	1,448	4	0

against Rs. 440–8–0 in the previous year. Goats and sheep were always excluded from reserved forests and reserved lands, but no objection was taken to grazing on waste lands covering an area of 3,046½ square miles. The total revenue realized as per Examiners Form No. 64 is Rs. 1,057 against Rs. 1,154 in the previous year.

Nilgiris.—The differential scale of fees hitherto in force was altered during the year and a uniform half rate enforced for all reserved forests and reserved lands above ghâts and a quarter-rate for forests below the ghâts. Range officers are again reported as having been slack in preventing forest grazing offences. The total revenue was Rs. 2,011 as against Rs. 1,639 the year before.

(e) NATURAL REPRODUCTION.

34. *Ganjam.*—The district report merely mentions that for the reproduction of the Sál (*Shorea robusta*) protection from grazing and fire is essential, and that the reproduction in Goomsur is promising where forest is not over-grazed and fire is excluded.

Vizagapatam.—The following is reported:—

"In Golgonda and Pálkonda taluks the reproduction is good and in Sarvasiddhi though the rainfall is less, yet as the Peddapalli reserve has been under special protection for the past 5 years, there is a promising and uniform growth from 8 to 12 feet in height fairly dense and in places impenetrable. Previous to reservation the hills were bare of grass and brushwood."

Godávari.—In the low country in small reserves closed to grazing the regrowth is apparent. In the Beddadavole and Marlagudem reserves, seedlings of Maddi (*Terminalia tomentosa*), Teak (*Tectona grandis*), Billudu (*Chloroxylon swietenia*), Chiriman (*Anogeissus latifolia*), &c., have grown spontaneously and profusely and these reserves have been protected from fire. In the reserves of Koppili and in the Kovada hills, Kondathangedu (*Xylia dolabriformis*) and Bamboo come up luxuriously in spite of large fires. In the Ellore range the reproduction of Billudu (*Chloroxylon swietenia*), Yepi (*Hardwickia binata*) and Teak is noticeable as a result of continuous protection. It is also good in the coast forests closed to cutting.

The Acting Conservator recently visited the Devancheruvu reserve. The standards left in the portion cleared in the past year have shot up well, but the thorny species have come up again very generally, and a thicket has resulted which will materially interfere with the coppicing of tree species.

Kistna.—Seedlings from 1 to 2 feet in height of Yepi (*Hardwickia binata*), Satinwood and Chiriman (*Anogeissus latifolia*) are found fairly distributed over the Bollapalli blocks closed against grazing for the past two years and form a striking contrast with the adjoining blocks which are not protected. Similarly in the Kondavid and Bellamkonda reserves, the undergrowth is becoming thick and the better class trees are improving.

In the Kondapalli reserve which has been protected for a longer period the undergrowth is almost impenetrable, but this will disappear as better trees grow up and form a leaf canopy.

Nellore.—The following is reported :—

"Trials were made in the Sríharikót plantations under this head The experiment of increasing reproduction by cutting the roots of Neredu (*Eugenia jambolana*) trees was continued during the year with good results, many shoots having come out and most of them being in a healthy state. The result on natural reproduction consequent on the exclusion of cattle, especially goats, is particularly noticeable in the plain jungles, and this result was also noticed by the late Conservator, Mr Gamble

"Noticing that some broken casuarina trees had coppiced, Mr. Peet considered that it would be interesting to find out the time of the year when the trees could be coppiced, and whether they could be cut flush to the ground, or what length of stem should be left Accordingly ten trees were cut every month, some flush and others having a stem from 2 to 4 feet. The three best months for coppicing were found to be September to November, and those coppiced best where the stem was 4 feet. It was also noticed that under shade the coppice did best."

Cuddapah.—The district report mentions a successful seedling growth of Red Sanders (*Pterocarpus santalinus*) in forests of the main division which were under protection from fire, and in some of the richer slopes it is difficult to penetrate through the mass of young poles of various species. It is also noted that on rocky soils and forest exposed to annually recurring fires there are no seedlings visible. In the Seshachellam reserve near Yerraguntlakota much damage was caused in October by a flight of locusts which stripped the trees of their leaves and large branches were broken by the weight of the insects. It is also noteworthy that the ordinary bamboo seeded in most parts of the Cuddapah district during the year.

Kurnool.—It is reported that in the Yerramalai Hills the effects of reservation are already marked, while in the Nallamalais reproduction is good notwithstanding the forest fires and grazing. A young seedling growth of bamboos is coming up after the general seeding of the species in the Nallamalais during the previous year.

Bellary.—The district report contains but little on this head, but the Acting Conservator, who was himself in charge of the forests during a portion of the year, can testify to the satisfactory growth that has come up in the lower eastern slopes of the Ramandrúg range which were cut over subsequent to his last visit to the forests in 1881; while throughout the range the beneficial effect of even the partially successful measures for protection from fire is apparent. The other ranges of the leased forests have not been so fully protected and the growth is still thin.

Again, in Kúdligi much good has resulted from the introduction of conservancy and reservation, especially as regards the regrowth of *Hardwickia* from the stool.

Anantapur.—The district report confirms the remarks quoted in the Annual Administration Report of 1889-90 so far as the reproduction of *Hardwickia* in Muchúkota and Kottakota, especially in the latter, where the additional protection of a

stone wall has caused a marvellous growth of trees of various species. In the protected areas of Nilikota, Kalyándrúg and Gutur, *Dolichandrone* seedlings have come up satisfactorily, and Margosa is reported to be flourishing in the cleared portions of Kotapalli.

Nilgiris.—The following is taken from the district report:—

"The growth of self-sown seedlings and shoots in the thinned compartments 1 to 5 of block No. II of Mudumalai Forests, which were specially protected from fire and grazing, is reported to be good. The coppice shoots from the trimmed stools of trees cut at Bonne also grow fairly, but some of them suffered from fire. The reproduction in the marginally-noted indigenous sholas on the plateau, where creepers were cut and undergrowth removed, is fair. The growth of coppice shoots in the Eucalyptus plantations worked under the plan of operations is very good."

Dodabetta, Cairn Hill, Elk Hill, Town shola and Ghât reserves.

(f) Artificial Reproduction and Cultural Operations.

35. The following abstract shows the cost and progress of work on plantations, topes and other cultural operations:—

Abstract J.—Plantations and Topes (see Forms 60 and 61).

	Up to 1889-90.		Added during 1889-90.		Added during 1890-91.		Total.	
	Area in acres.	Cost.	Area in acres.	Cost.	Area in acres.	Cost.	Area in acres.	Cost.
		Rs.		Rs.		Rs.		Rs.
Plantations	7,144½	4,22,290	{ 382¼ / — 7	{ 13,979 / — 371 / — 148*	169¾	10,700	7,689½	4,46,450
Topes*	6,865	1,11,572	{ 41 / — 51	2,125 / — 1,936	43	2,380	6,898	1,14,141
Other charges (cultural operations)	774	9,044	397½	{ 2,941 / — 20 / + 148	793⅛	{ — 4,716 / — 30	1,964⅝	16,799
Total ..	14,783½	5,42,906	{ 820¾ / — 58	19,193 / — 2,475	1,005⅞	{ 17,796 / — 30	16,552⅛	5,77,390

* Included under "Cultural operations" this year.

The quantities shown as "minus" under the head "added in 1889-90" were explained in detail in the last annual report. The minus entry under the cost of other charges (cultural operations) added during the year under report refers to two abandoned areas, Kúdligi and Gollapalle, in the Bellary district.

36. The work of the year was as follows:—

Ganjam.—It is reported that edible date palm seeds were sown over from 70 or 80 acres in the Chatrapur reserve and germinated successfully. The seedlings were from 6 to 9 inches in height at the commencement of the current hot weather, and it is hoped that the plants will survive the season of drought, in which case the plantation may be considered as established. Doubt is, however, expressed whether the trees will ever blossom and fruit in the moist and cool climate of Chatrapur.

The sowings of various species reported last year are said to be successful and have been continued.

Vizagapatam.—There are no plantations in the district, nor, in the year under report, were any cultural operations carried out. Two topes of large area were protected without special cost.

Godávari.—There are two plantations in the district, viz., Bendamurlanka and Narsápur, both of which are reserved forests. The area under casuarina was increased by 5 and 3 acres, respectively, at a cost of Rs. 374 and 415. Eucalyptus was planted in the Bendamurlanka reserve and the seedlings are reported to be doing well.

No topes are under the management of this department in this district.

No experiments were made during the year, but the Arabian date plants planted in previous years are reported as doing well.

In the Ramasampeta reserve a number of seeds were sown and of those that germinated about 200 seedlings survive.

Kistna.—From this district it is reported as follows :—

"Five and 10 acres in Gopuvanipalem and Kanukollu plantations, respectively, were planted with casuarina and Maddi (*Terminalia tomentosa*) plants one year old. In the Weld and Bápatla plantations, 20 and 8 acres, respectively, were ploughed up and sown broadcast with seeds of Kanuga (*Pongamia glabra*), Tamarind (*Tamarindus Indica*), Margosa (*Melia Indica*), Soapnut (*Sapindus emarginatus*) and Dirisana (*Albizzia Lebbek*) as recommended by Mr. Gamble. A fairly good number of seedlings have come up, but it remains to be seen whether they will get through the hot weather.

"The nurseries in Bezváda and Kondapalli were maintained, and in the former about thirty thousand seedlings of various indigenous species were raised, twenty thousand of them have been basketted and are kept ready for planting *in situ* on the Bezváda hill in the rains of 1891. On the same hill side were planted during the year under review ten thousand seedlings of Neredu (*Eugenia jambolana*) and Maddi (*Terminalia tomentosa*).

"The cost of planting 25 acres was Rs. 1,858. Cultural operations cost Rs. 889 and expenditure on topes amounted to Rs. 258."

Nellore.—The following is taken from the district report :—

"The experiment of gradually converting the casuarina plantations into forests of indigenous growth by cutting away a few of the trees to make a clearing and sowing seeds of various kinds in patches was continued in the year under report. The plantations at which this experiment was tried were those at Dugarázpatnam, Tammanapatam and Kottapatam over an area of 70 acres. Almost all the seeds that were sown germinated and throve till February when they showed signs of withering, and by the end of April 1891 most of the seedlings at Dugarázpatnam and three-fourths of the seedlings at Kottapatam and Tammanapatam perished from the heat and failure of the usual monsoon. The trials made at Sríharikót of sowing seeds broadcast in open spaces in the jungle over an area of 60 acres have also not proved successful, the seedlings having succumbed to the succeeding hot weather. The plants, mostly Vepa (*Melia Indica*), Tangedu (*Cassia auriculata*) and Chikreni (*Albizzia amara*) in four of the patches sown in 1889-90 at Dugarázpatnam and 14 of the patches sown in the same year, covering an area of about 6 acres are thriving well.

"It is to be regretted that the two years in which this experiment was tried were years of short rainfall and of abnormal heat. There is reason to believe that if the experiment is persevered in, the ground could be covered with indigenous growth."

Cuddapah.—The average girths in the sample area of the red sanders plantation, which is recorded annually, is 21·70 inches against 21·39 inches the year previous, but the experiment has been vitiated owing to 23 trees losing their bark ; so the average has been kept down. This average girth is determined from the measurement of 319 trees 25 years of age. Coppice of the red sanders is thriving. Shoots under two years of age are over 6 feet in height in 11 cases out of 95.

A very large number of palmyra seeds were sown along the river bank in the Kamalápuram plantation, but as yet they have not germinated. Sowings of other species including red sanders (*Pterocarpus santalinus*), Maddi (*Terminalia tomentosa*), Yepi (*Hardwickia binata*) were made in the plantations of Kamalápuram and Appayapalli and a large proportion has come up.

Tangedu (*Cassia auriculata*) sowings were continued in Pullampet and Uparapalle, but the drought caused the seedlings to wither. Similarly, casuarina trees at Madanapalle and elsewhere are dying from the same cause.

Kurnool.—Nil.

Bellary.—Nil.

Anantapur.—Five acres in Khojapalle were sown with palmyra seeds, and 500 seeds of the same species were sown in the Anantapur reserve ; the result not reported.

Nilgiris.—The district report states :—

"The season was not very favourable for planting. The new planting done in Aramby and Cairn hill reserves consisted chiefly of *Frenela*, *Pinaster*, *Cypress* and indigenous plants, and that in the Coonoor peak and Rallia of *Frenela*, *Acacia dealbata*, *Pinus longifolia*, *Casuarina suberosa* and *Cupressus macrocarpa*. In the Kullar reserve, *Swietenia macrophylla*, Vengai (*Pterocarpus marsupium*), Teak (*Tectona grandis*) and *Cedrela toona* were planted.

"The nurseries at Lovedale, Sims' Park and Kullar have been maintained in excellent order. The nursery at Tippacadu was abandoned during the year and the Calcutta Mahogany (*Swietenia macrophylla*) plants were planted round the Benne Rest-house.

"The principal plants raised in the Lovedale nursery were species of *Pinus, Cryptomeria Japonica* and *Bucklandia*, and indigenous shola plants. Those raised in Sims' Park were *Bucklandia, Frenela* and indigenous shola plants; in Kullar various exotics and indigenous plants were reared, especially *Cedrela toona*, Teak (*Tectona grandis*) and Vengai (*Pterocarpus Marsupium*).

"The existing blanks in the Lovedale reserve were filled up with *Bucklandia, Casuarina* and indigenous shola tree seedlings, chiefly *Michelia Nilagirica*; those in the Ghât reserve and Rallia reserve with *Casuarina suberosa, Cedrela toona, Daphniphyllum, Eleocarpus oblongus Frenela Rhomboidea* and *Pinus longifolia* The Sims' Park reserve is used as an experimental garden and various species of *Eucalyptus* and other exotic plants received from time to time for experiment have been planted out in it. The plants have been well taken care of and labelled carefully."

(g) Works of Improvement.

37. The reports from Ganjam, Vizagapatam, Nellore and Kurnool make no mention of any works of improvement properly so called carried out during the year.

Godávari.—The sum of Rs. 2,154 recorded under other works-A ,VIII (*f*) was expended on clearing the thorny undergrowth and removing crooked trees in two blocks of the Devancheruvu reserve.

Kistna,—In the Kondapalle reserve creepers were cut over an area of 700 acres at a cost of Rs. 217.

Cuddapah.—The chief works were—

(1) Thinning bamboo clumps over 20 acres in Settigunta.

(2) Cutting back badly grown trees among the teak in Kódúr Red Sanders plantation and over 40 acres of Thanakonda reserve.

(3) Creeper cutting over 11 acres on Horsleykonda and 50 acres in Balapalle working circle.

Bellary.—No creeper cutting was carried out. Part of the 6th compartment of Rámandrug was thinned and 138 tons of fuel were cut and stacked in the lower part. At the close of the year improvement thinnings were begun at the summit, and the fuel is being supplied to the Commissariat at Rámandrug.

Anantapur.—In Kojjapalle reserve, block II, 31 trees were felled and converted into 664 cubic feet of fuel.

Nilgiris.—Creeper cuttings were carried out over an area of 50¾ acres in 5 reserves for Rs. 296-12-0 and the produce cut was sold for Rs. 630-6-0, which gave a profit of Rs. 333-10-0. "Strobilanthes" and other undergrowths were removed. In field No. F-15 creepers and the undergrowth were cut twice at the instance of the Coonoor Municipality for Rs. 80, but the produce being useless was only burnt.

The report shows that the following works were carried out as improvement thinnings:—

Mudumalai Forest.	Acres.	Cost	Rate	Remarks.
		Rs. A P.	Rs. A P	
Block II, Compartment No. 5	34	257 9 6	8 8 0	No demand for produce and so it was not sold
Marliamund	11½	80 0 0	7 10 5	Yellow wattle sold for Rs. 164 Profit Rs. 84.
Brooklands reserve	9	49 0 0	5 7 1	Sold for Rs 263 Profit Rs. 214.
Town shola, Coonoor	11	117 8 0	5 14 0	Sold for Rs.214-5-0. Profit Rs. 96-13-0
Ghât reserve	9			

Not much dead-wood was removed from the Moyar reserve, there being no demand for such produce.

38. *Fencing.*—Under the head of "fencing" only a few districts have reported work done.

Cuddapah.—Three topes in Cuddapah range, 2 in Proddutur and 3 in Kádiri were fenced or walled or had their fences thoroughly repaired during the year.

Anantapur.—Kojjapalli reserve was fenced to the length of 4,606 yards with babul at a cost of Rs. 113-7-6. In Guntakal block I, 3½ miles of boundary ditching were done for Rs. 42-9-4.

In Pamidi reserve, ¾ mile of fencing with babul was done at a cost of Rs. 33-6-0.

Godávari.—The fencing of the Devancheruvu reserve was continued by heaping up along the outer edge of the boundary line, the thorny branches which were cut when clearing the undergrowth in the two blocks.

Communications and Buildings.

39. The following is a comparison of the total expenditure of this year with that of the previous two years:—

—	1888-89	1889-90	1890-91
	Rs.	Rs.	Rs.
Roads	9,234	9,752	9,020
Buildings	14,457	13,422	15,447
Other works	302	826	548
Total ..	23,993	24,000	25,015

The total amount spent has remained at the same figure practically; notwithstanding every desire to push on such works the District Forest-officers have not been able to carry them out from press of other duties.

Roads.

40. The works done in the various districts were—

Ganjam.—New roads—

Name	Miles.	Cost. Rs.
Gullery-Rambha	2	465
Tilsingi-Chondorgiri	1¼	306
Branch to Tarsingi	¾	90
		861
Repairs to cart-tracks, &c.		201
		1,062

Vizagapatam.—In Golgonda taluk, two miles of plain road and two miles of ghât road were laid down under the supervision of the District Forest-officer in July and October 1890, but the work was not proceeded with for want of a Range officer to superintend it. In Pálkonda range a road was commenced from Donabayi (which is the forest centre of the Agency) to join the Sitampet-Pálkonda road. Only 1½ miles were made and the work was then taken up by the Revenue Department and is in progress.

Godávari.—Only two roads, viz. (1) Pakalagudem-Aukanagudem road, 6 miles, (2) Routulagudem-Aukanagudem road, 7 miles, were started and completed at a cost of Rs. 1,980.

In the sub-division nothing was done except repairs to the extent of Rs. 166. This is reported to be due to constant changes of officers and to the attention of the Sub-divisional officer being concentrated on the regulation of the timber traffic.

Kistna.—The following are the works done:—

	Miles.	Cost. Rs.
New Roads.		
Mellavagu-Nekarikallu	13	525
Venkatayapalem, II section	8	520
Repairs.		
Ballapalli-Ravidicherla	8	48
Ibrampatnam, Loya cart-track	9½	69
Clearing inspection paths in Kondavid reserve ...	3	65
Repairing Demudunutalapalem road	1	22
		1,249

A sum of Rs. 130 due for Venkatayapalem, II section, road was not disbursed.

Nellore.—No roads were under construction during the year.

Cuddapah.—The principal works done were—

	Miles.	Cost. Rs.
Connecting the Ragimanipenta road with the Local Fund road to Cuddapah (incomplete)	$\frac{7}{8}$	222
Converting Pedaralasagadu track into a road (incomplete) ...	$\frac{3}{4}$	222
Construction of Kavakona road (incomplete)	$1\frac{1}{8}$	62
		506
Repairs to the existing roads		223
		729

Further progress was hindered by the dryness of the season.

The district report contains some interesting figures showing the circulation on these roads and points out where increased traffic will result from minor extensions and improvements.

Kurnool.—Out of a budget allotment of Rs. 2,000 only Rs. 830 were spent. This was owing to the want of sufficient establishment—

	Mls.	Cost. Rs.
Mahanandi road	$1\frac{1}{2}$	347
Siddapuram-Velgode road	1	425
		772

A sum of Rs. 40 was spent on the Digametta cart-track and Rs. 18 on a foot-path in the Márkápur range.

Bellary.—Only two roads were made, viz. :—

	Mls.	Cost. Rs.
Donemalai bridle-path	$1\frac{1}{2}$ or (2,135 yards).	214
Gamble's road	4 or (6,971 yards).	300
		514

There is now a broad cleared path along the summit of the Ramandrúg range which, with some minor improvements, will admit of carts traversing it from end to end.

Anantapur—

	Mls.	Cost. Rs.
Inspection path of Narsápur date plantation	$\frac{1}{2}$	66
Bukkapatnam-Narsampalli road	2	30
Road on Penukonda hill	2	145
Hill road in Kothakota reserve	$\frac{1}{8}$	12
Amagondapalem-Gopidevarapalle road (cart-track)	2	8
		261
Repairs.		
Road in Khojjapalle reserve	$2\frac{3}{4}$	60
Inspection path in do.	$3\frac{1}{4}$	38
		98
		359

	Furlongs.	Cost.	Length still to be done. M.	F.
Nilgiris—		RS.		
Road from Bonne to the Nellakotta Sultan's battery road (2 feet wide)	6½	72	4	1½
Road in Cully reserve	2¾	226		
Road from Mr. Parson's road to Sígúr road in Aramby reserve		517		
A trial trace for an export road		23		
Cost of New Roads		838		

The existing roads in the Ootacamund, Coonoor and Mudumalai ranges were repaired and side drains cut for Rs. 1,087. A sum of Rs. 200 was paid as contribution to the Kalhatti waterfall bridge as the road is useful for inspection. Total cost incurred was Rs. 2,125.

Buildings.

41. *Ganjam.*—The following houses have been built in addition to those reported last year :—

1. Gundribadi.
2. Jagannathprasad.
3. Khariguda.
4. Bonta.
5. Tarsingi.
6. Kurcholi.
7. Pippalaponka.

In addition to these it is proposed to construct houses at Baibaly and Bodingy when, it is believed, the district will have a sufficient number of houses for all present forest purposes. During the year Rs. 2,603 have been spent under this head, but the district report gives the expenditure as Rs. 1,771 only.

Vizagapatam.—Nothing has been spent on houses, but a forest depôt at Kondasantha is in course of construction.

Godávari.—Two more rest-houses at Singaram and Chintur in Bhadráchalam were completed and added to the list. A rest-house at Mulagalampalli, Yernagúdem range, is in course of construction.

The revenue office shed at Wuddagudem was burnt for the second time on 6th March 1891, when the whole village took fire. The loss was not serious. Three currency notes valued at Rs. 10 each, some cash, chalans and cheques kept in the iron safe were destroyed with the exception of the coins which only got discoloured. It is proposed to build a new shed outside this village which has been destroyed twice by fire.

The total amount spent on construction is Rs. 1,288.

Kistna.—A rest-house at Bellamkonda was constructed during the year at a cost of Rs. 1,690 (of this only Rs. 1,200 were paid during the year) and added to the list of houses. The rest-houses at Kondavid and Kondapallo and the Vinukonda range house were repaired during the year at a total cost of Rs. 221. Seven Forest guards' huts were also constructed during the year at a cost of Rs. 173. During the year the expenditure was Rs. 1,594.

Nellore.—No new buildings have been constructed during the year, but a store shed at Srîharikót is in course of construction and the Udayagiri bungalow was repaired.

The total expenditure is—

	RS.	
On construction	874	
On repairs	190	
		1,064

Cuddapah.—The district report gives a complete list of houses and other buildings in the district. It is reproduced below for reference for the next year's report. Only two houses at Rolabodu (Lankamalais) and Kortimadugu (Palkondas) have been commenced and the work is in progress. Repairs have also been carried out to the range bungalows and offices at Kódúr and Sidhout.

The total expenditure is Rs. 1,534 :—

Range.	Name.	Cost.	Walls.	Roof.	Out-houses.
		Rs.			
	Inspection, range and depôt bungalows.				
Kódúr	Kódúr bungalow	2,600	Brick in chunam ..	Tiled ..	Tiled.
	Balapalle do.	510	Stone in mud ..	Thatch ..	Thatch.
	Mogilipenta do.	900	Do. ..	Iron .	Do.
	Office building at Kódúr	145	Do. ..	Tiled ..	..
	Kódúr range house	1,200	Brick in chunam and mud.	Do. ..	Tiled.
Rájampet	Rájampet range house	365	Brick in mud ..	Do. ..	..
Sidhout	Sidhout do.	525	Do. ..	Do. ..	..
	Inspection bungalow at Vontimitta ..	1,000	Brick in chunam ..	Do. ..	Tiled.
	Vontimitta depôt	260	Stone in mud ..	Terraced ..	..
Badvél	Range house	560	Brick in mud ..	Tiled ..	..
Madanapalle ..	Horsleykonda inspection bungalow ..	3,800	Brick and stone in mud.	Do. ..	Tiled.
Ráyachóti	Range office	445	Brick in mud ..	Do. ..	..
	Sanipaya inspection bungalow ..	1,900	Do. ..	Thatched ..	Thatched.
	Kurrapalle depôt	245	Stone in mud ..	Terraced ..	..
	Polisettivandlapalle	18	Do. ..	Thatched ..	..
	Forest inspection sheds.				
Kódúr	5 inspection sheds	127	Stone in mud ..	Thatched ..	..
Sidhout	2 do.	46	Do. ..	Do. ..	..
Badvél	1 do.	60	Do. ..	Do. ..	..
Cuddapah	1 do.	20	Do. ..	Do. ..	..
	Forest Guards' and Tannahdars' huts.				
Kódúr	16 Forest guards' and tannahdars' huts.	244	Mud	Thatched ..	..
Rájampet	12 do. do.	180	Do.	Do. ..	..
Sidhout	5 do. do.	72	Do.	Do. ..	..
Badvél	9 do. do.	132	Do.	Do. ..	..
Proddutur	2 do. do.	34	Do.	Do. ..	..
Cuddapah	12 do. do.	156	Do.	Do. ..	..
Kadiri	3 do. do.	42	Do.	Do. ..	..
Ráyachóti	5 do. do.	72	Do.	Do. ..	..
Váyalpád	3 do. do.	42	Do.	Do. ..	..
Madanapalle ..	1 do. do.	20	Do.	Do. ..	..
	Huts and sheds in topes.				
Kódúr	3 huts	41	Mud	Do. ..	..
Rájampet .. .	2 do.	10	Do.	Do. ..	..
Badvél	1 do.	20	Do.	Do. ..	..
Cuddapah	1 do.	10	Do.	Do. ..	..

Kurnool.—No new houses have been added to the list, but repairs and improvements to the existing houses have been carried out. The house at Mantrala has been completed with the exception of doors and windows, but the work on the whole is reported as not being very satisfactory.

The amount spent on repairs is Rs. 1,753.

Bellary.—The range house at Sandúr was finished during the year and the Donemalai rest-house was repaired.

The expenditure was as follows :—

	Rs.
Construction	544
Repairs	26
Total ...	570

Anantapur.—The following houses have been added to the list :—

(1) Pathakothacheruvu bungalow transferred from the Local Fund Department;
(2) Range house at Dharmavaram ;
(3) Range office at Bukkapatnam (unfinished);

Also 2 guards' huts and a tannah hut were constructed. In addition to the above works, the existing buildings have been repaired and payments were made for the out-houses of head-quarters' bungalow constructed last year, also for those of Konapanainapalle.

The total expenditure during the year is Rs. 1,910.

The following is a complete list of houses in the district on 1st April 1891 :—

	Rs.
Head-quarters' bungalow with out-houses	6,991
Pathakothacheruvu bungalow	1,500
Gollah bungalow	5,000
(The building is actually worth Rs. 2,000.)	
Konapanainapalle bungalow	800
Penukonda hill do.	500
Konapanainapalle out-houses	187
Range house at Dharmavaram	470
Do. office at Bukkapatnam (not complete) ...	490
Two sheds for Forest guards	40
One tannah hut at Bukkapatnam	60
Total .	16,038

Nilgiris.—The following were constructed :—

	Rs.
Rest-houses—	
Benne	713
Mudumalai	844
Range house—	
Benne	580
Miscellaneous huts—	
Gardener's hut at Lovedale	33
Kitchen to Burliyár rest house	115
Out-houses to Rallia do.	20
Guard's hut at Hulikal	90
Store-rooms in Coonoor fuel depôt	81
Portion of the Kulhatti range house	50
	2,526
Repairs, &c., to the existing houses	605
Total expenditure ...	3,131

Tramways.

42. Nellore is the only district in which tramways have been laid out in the Northern Circle. There are 2 lines, one at Srîharikót $4\frac{1}{2}$ miles in length and the other at the Casuarina Plantations $2\frac{3}{4}$ miles, the total length being $7\frac{1}{4}$ miles. The final results of the working are recorded in the following statement, submitted from the district which shows in the case of the older tramways that they have been a source of great saving. That in Srîharikót is also proving a success :—

Statement showing the working of tramway in Nellore District for 1890–91.

Name of localities where tramway planted.	Length of line of tramway planted.	Quantity of wood carried in						Total quantity (columns 3 to 8).
		1885–86.	1886–87.	1887–88.	1888–89.	1889–90.	1890–91.	
1	2	3	4	5	6	7	8	9
	M. F.							
Tammanapatam (*a*) ..	2 6	1,891	164	..	..	249	171	2,475
Kothapatam (*b*) ..		..	1,872	..	2,066	255	..	4,193
Vutukur (*c*)		..	..	..	..	..	498	498
Varini (*d*)	4 4	..	..	..	..	(*e*) ..	1,742	1,742
Penubakam, Srîharikót range.		..	..	..	..	137	(*f*) 1,820	1,957
	$7\frac{1}{4}$	1,891	2,036	..	2,066	641	4,231	10,865

Boats.

Name of localities where tramway planted.	Total quantity in tons for 1 mile (columns 2 × 9)	Actual cost of carrying the quantity in column 10 by tramway	Original cost of tramway materials.	Interest at 4 per cent. per annum and allowance for deterioration of plant at 6 per cent. per annum on the original cost of the tramway since it purchase.	Total cost by tramway (columns 11 and 13).	Probable cost of carting the same by common carts.	Average cost per ton per mile by tramway.	Average cost per ton per mile by common carts.
	10	11	12	13	14	15	16	17
		Rs.	Rs	Rs.	Rs.	Rs.	Rs. A P	Rs A. P.
Tammanapatam (*a*).	3,094							
Kothapatam (*b*) ..	11,531	17,363	2,194	15,574	9,342	11,536	14,039	0 10 7	0 12 11
Vutukur (*c*) ..	996							
Varini (*d*)	1,742							
Ponubakam, Sriharikót range.	8,557	748	17,070	2,388	3,136	1,810	0 5 10	0 3 6
	25,920	2,942	32,644	11,730	14,672	15,849		..

(*a*) 1½ mile
(*b*) 2¾ miles
(*c*) 2 miles.
(*d*) 1 mile
(*e*) 2 miles, 5 furlongs 90 feet
(*f*) 4½ miles

Includes interest on capital for 2 years and allowance for wear and tear for one year.

43. *Godávari.*—No boats were built during the year and the 2 small boats sanctioned for the inspection of Upputeru and Coringa mangrove jungles have not been yet constructed.

Kistna.—A small boat was constructed at a cost of Rs. 45 for the use of the Nizampatam forest guard.

Nellore.—Two ferry boats were constructed during the year at a cost of Rs. 255 and an old one sold. In all there are 12 boats in the district belonging to this department.

Elephants.

44. *Godávari.*—There are 4 elephants in this district and of these one is reported to have been sick for a portion of the year, but the Acting Conservator recently inspected them and found them in health. They have dragged 745 logs from the forests and only 100 of them reached Rajahmundry depôt. Mr. Peet sent a timber truck for trial, but this is reported to have proved unsuccessful. The District Forest-officer proposed the construction of carts of a certain description; they were sanctioned and will be tried when buffaloes are available. These are intended to save the waste of power of the elephants in dragging logs in places where they can be carried on carts, and it is proposed to confine the elephants' work to parts of the forests where carts cannot penetrate.

Nilgiris.—There are 2 large female elephants and 3 calves, the eldest of which, a male, is 7 years old. This calf has been trained to drag logs up to 20 cubic feet. The female elephant named Lakshmi is reported to be past work and is not therefore worked. All the animals kept good health.

Charcoal manufacture in the Nilgiris.

45. During the year two Morean's kilns costing Rs. 1,346 were received on indent from the Secretary of State and were worked in the Governor's Shola Reserve.

The old Morean's kiln was worked in the Bandy Shola plantation up to January and was then removed to the Rallia Reserve.

The native kiln manufactured at Vellore and purchased last year, was first worked in the Aramby and Governor's Shola Reserves and then sent to Coonoor. The bottom of this kiln becoming burnt out it was of no further use.

The report upon the working of these kilns was supplemented by statements of cost and outturn, but being incorrectly prepared they have been omitted from the report.

CHAPTER V.

YIELD AND WORKING.

46. The following is the outturn statement for the year :—

ABSTRACT K.—Comparative Yield.

Heads.	TIMBER IN CUBIC FEET INCLUDING SANDAL-WOOD		FUEL IN CUBIC FEET.		BAMBOOS IN NUMBER		MINOR PRODUCE GROSS VALUE IN RUPEES.	
	1889-90	1890 91	1889 90.	1890-91	1889-90.	1890-91	1889-90.	1890-91.
							RS	RS.
By Government Agency..	121,225½	(a)183,296½	851,983	(b) 1,211,946	108,386	(c) 137,095	12,566	9,756
By purchasers including drift and confiscations..	1,547,912	1,940,584	4,459,179	4,201,280	7,056,288	11,941,448	2,13,420	2,50,676
Free grants	15,630	30,046	230	..	13,989	14,310	400	588
Total ..	1,684,767½	2,153,926½	5,311,392	5,413,226	7,178,663	12,092,853	2,26,386	2,61,020
Difference in 1890-91 as compared with 1889-90.	+ 469,159		+ 101,834		+ 4,914,190		+ 34,634	
Percentages of increase or decrease on the previous year's totals	+ 28		2		+ 68		+ 24	

(a) Includes 9,190 cubic feet being excess found on remeasurement of timber collected and taken to depot in previous years.

(b) Includes 25,699 cubic feet being excess found on remeasurement of fuel collected and taken to depot in previous years.

(c) Includes 18,802 number being excess found in the number collected and taken to depot in previous years.

NOTE.—The value of minor produce given above is that of the quantity *disposed of*, not that of the quantity *collected*, as the value of the latter is not known

There was an increase during the year in the total yield compared with that of the previous year, amounting to 28 per cent. under timber, 2 per cent. under fuel, 68 per cent. under bamboos and 24 per cent. under minor produce. The increase was in Godávari, especially where for the first time revenue was derived from the issue of bamboos from the Rampa forests.

SECTION 1.—DEPARTMENTAL OPERATIONS.

47. The following gives a comparison of the trees felled departmentally in two years :—

ABSTRACT L.—Trees felled and converted (see form 68).

Opening balance, 1889-90	Felled, 1889 90	Felled, 1890 91.	Converted, 1889 90.	Converted, 1890-91	Balance carried forward.	Remarks.
635	26,567	23,331	26,419	23,750 * 15	201	* Destroyed

The decrease for the year in the number of trees felled occurred chiefly in the Nílgiris, where only 5,835 Eucalyptus and Acacia trees were felled during the year against 20,225 in the previous year; but this was, however, to a great extent supplemented by increased fellings of teak in Godávari and sâl in Ganjam. The short felling in the Nílgiris is due to slack demand and to a large quantity felled in the previous year remaining on hand during the year.

48. The following abstract compares the produce collected and disposed of for two years :—

ABSTRACT M.—Produce collected and disposed of (see forms 69, 70, 71 and 73-A).

PRODUCE COLLECTED.

1		During 1889-90. Quantity. 2	Cost. 3	Average. 4	Stock at the beginning of 1890-91. Quantity. 5	During 1890-91. Quantity. 6	Cost. 7	Average. 8
				Rs. A. P.			Rs.	Rs. A. P.
Timber	.. C. ft.	120,442½	21,857	0 2 11	179,094½	181,865½	22,657	0 2 0
Firewood	.. ,,	851,983	37,404	0 0 8	925,619	1,211,946	53,010	0 0 8
Bamboos	.. No.	108,386	897	0 0 2	13,491	137,095	650	0 0 1
Sandalwood	.. C. ft.	783	1,856	2 5 11	43	1,431	1,574	1 1 7
Minor produce	.. Mds.	25,306	5,643	0 3 7	4,864½	43,035½	5,833	0 2 2
	Total ..	..	67,657	..	..	..	83,724	..

PRODUCE DISPOSED OF

		During 1889-90. Quantity 9	Cost. 10	Average. 11	During 1890-91. Quantity. 12	Cost. 13	Average. 14
			Rs.	Rs. A. P.		Rs.	Rs.
Timber	.. C. ft.	148,322	43,599	0 4 9	148,879	33,031	0 3 7
Firewood	.. ,,	675,347	59,474	0 1 3	1,303,871	96,178	0 1 2
Bamboos	.. No.	112,686	2,745	0 0 5	114,725	1,803	0 0 3
Sandalwood	.. C. ft.	740	5,616	7 9 5	1,257	11,229	8 14 11
Minor produce	.. Mds.	26,434½	12,566	0 7 7	41,369	9,756	0 3 9
	Total ..	..	1,24,000	..	..	1,51,997	..

49. During the year under report there has been an increase both in the departmental collection and disposal of the produce, viz., timber, fuel, bamboos, sandalwood and minor produce and the revenue has similarly increased.

Timber.—The increase under this head occurs chiefly in Godávari, Cuddapah and Nílgiris. It is due to sale of teak and miscellaneous logs in Godávari and the Nílgiris and of red-wood roots and miscellaneous windfall timber in Cuddapah. The sales in Godávari would have been more if the teak poles ordered and cut in the unreserved forests of the Bhadráchalam Sub-Division had been brought to Rajahmundry and sold during the year.

Fuel.—The increase occurs chiefly in Godávari, Nellore, Cuddapah, Kurnool and Anantapur. The sales of casuarina wood in Godávari, of the large stock of both jungle-wood pieces and casuarina in Nellore and the departmental supply of railway fuel in Cuddapah and Kurnool mostly contribute to the increase. In Anantapur it is due to the departmental thinning operations.

Bamboos.—The increase occurs in Kistna and Anantapur, but the collection in the former was utilized departmentally, that in the latter alone being sold.

Sandalwood.—This is collected only in the Nílgiris where the increase during the year is chiefly due to the collection and sale of a large quantity of sandalwood roots and branch wood of trees felled in previous years.

Minor Produce.—The increase occurs in Ganjam and Nellore. In the former, it is due to the collection of fibre used departmentally for rafting work, and to the clearance of large stocks in the latter.

50. The sales of departmentally collected produce both from depôts and forests amounted to Rs. 1,51,997; the amount actually realized, however, during the year was Rs. 1,61,696, the excess being due to the recovery of outstandings of the previous year.

51. The following figures show the difference between the actuals and the sanctioned budget figures for the year :—

—	Receipts.	Expenditure.	Surplus.
	Rs.	Rs.	Rs.
As per sanctioned budget estimate ..	1,59,100	84,160	74,940
Actuals as per Form No. 64	1,61,696	83,724	77,972
Difference ..	+ 2,596	— 436	+ 3,032

Under this section there was an increased surplus of Rs. 3,032. The balance of revenue outstanding at the end of the year is Rs. 1,931.

52. The value of stock in depôts was diminished by Rs. 4,220 as shown below :—

Districts.	On hand at commencement.	On hand at close.	Difference.
	Rs.	Rs.	Rs.
Ganjam	1,971	6,433	+ 4,462
Vizagapatam	..	12	+ 12
Godávari	456	536	+ 80
Nellore	2,837	30	— 2,807
Cuddapah	24,552	20,242	— 4,310
Bellary	190	..	— 190
Anantapur	3	..	— 3
Nilgiris	2,466	1,002	— 1,464
Total ..	32,475	28,255	— 4,220

The chief stock is of sâl sleepers in Ganjam and red sanders in Cuddapah, for which there is no current demand.

It should be recorded that after correspondence between this office and the Public Works Department through the Board of Revenue, Government in the Public Works Department declined to accept sleepers for the East Coast Railway to be made from the wood of the *Terminalia tomentosa*.

It is also to be mentioned that after much negotiation, the supply of fuel by Departmental agency to the Madras Railway was undertaken by the Cuddapah district. This course was necessitated by the unwillingness of the contractors to cut to conditions necessary to conservancy. There are signs of their re-considering their position, and they are ready to accept the terms offered.

Section 2.—Removal by Purchasers (Form No. 72-A).

53. The following abstract shows the removals by purchasers under permits or licenses for two years :—

Abstract N.—Produce removed by permit holders (Form No. 72-A).

Produce.	During 1889-90.			During 1890-91.		
	Quantity.	Amount of sales.	Average.	Quantity.	Amount of sales.	Average.
		Rs.	Rs. A. P.		Rs.	Rs. A. P.
Timber .. .. .. C. ft.	1,457,016	1,25,594	0 1 5	1,926,368	1,56,788	0 1 4
Firewood .. .. .. ,,	4,429,766	82,292	0 0 4	4,184,166	85,200	0 0 4
Bamboos .. .. .. No.	7,038,404	49,315	0 0 1	11,935,284	72,924	0 0 1
Grass and grazing	.	78,327	..	..	82,775	..
Minor produce	..	1,33,835	..	..	1,69,228	..
Total ..	..	4,69,363	..	..	5,66,915	..

The increase of Rs. 97,552 under sales and of Rs. 93,613 under realizations occurs in all the districts except in Cuddapah and the Nílgiris and under all sub-heads of revenue account.

54. The confiscations for two years were as follows :—

ABSTRACT O.—Confiscation (Form No. 72-B).

Produce.	During 1889-90.			During 1890-91.		
	Quantity.	Amount realized.	Average.	Quantity.	Amount realized.	Average.
		Rs.	Rs. A. P.		Rs.	Rs. A. P.
Timber .. .. .. C. ft.	90,896	12,087	0 2 1	14,216	4,839	0 5 5
Firewood .. .. .. ,,	29,413	745	0 0 4	17,114	571	0 0 6
Bamboos .. .. .. No.	17,884	171	0 0 2	6,164	62	0 0 2
Minor produce in value	..	115	..	..	178	..
Add outstanding amount of previous year.	..	..	..	..	116	..
Total ..	..	13,118	..	..	5,766	..

55. The smaller revenue is accounted for by the returns of Godávari and Kurnool and it is believed that in the former district the season's driftwood on the Godávari river had not come to Rajahmandri at the close of the year. In Kurnool, the previous year's revenue was derived from the sale of many years' accumulations of confiscated produce.

SECTION 3.—FREE GRANTS OF FOREST PRODUCE.

56. The following shows the free grants made by Collectors and District Forest-officers and their value for two years :—

ABSTRACT P.—Free grants.

District.	Timber.	Firewood.	Bamboos.	Minor produce in money value.	Money value.
	C. FT.	C. FT.	NO.	Rs.	Rs.
Ganjam	..	..	..	..	..
Vizagapatam	..	..	..	..	..
Godávari	..	..	..	..	..
Kistna	192	..	2,420	..	26
Nellore	15,634	..	..	195	1,529
Cuddapah	12,830	..	9,420	..	259
Kurnool	240	..	1,440	..	30
Bellary	..	..	..	390	390
Anantapur	..	..	..	..	..
Nílgiris	1,150	..	1,030	3	178
Total ..	30,046	..	14,310	588	2,412
Free grants of last year ..	15,630	230	13,989	400	2,931

From the statistics recorded in the abstract it will be seen that the amount of produce granted in the Nellore and Cuddapah districts is particularly large. In Nellore larger grants of palmyra trees and leaves were given than during the preceding year for the purpose of rebuilding houses consumed by fire. In Cuddapah also most of the free grants were made for the same purpose.

57. It is believed that in some districts which return a "*nil*" statement of free grants the public supplies itself without the formality of asking permission. This is especially the case in the Coast districts where forest conservancy is in its infancy and establishments are lax in carrying out their protective duties.

CHAPTER VI.

Financial Results.

58. The revenue and expenditure is given in Form No. 64.

The following abstract gives the cash results for five years :—

Abstract Q.—Cash results from 1886-87.

—	For 1886-87.	For 1887-88.	For 1888-89.	For 1889-90.	For 1890-91.	Sanctioned estimate for 1890-91.	The year under report compared with the previous year.	The year under report compared with the sanctioned estimate.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Revenue	5,52,248	5,64,723	6,16,920	6,06,610	7,45,547	6,05,500	+ 1,38,937	+ 80,047
Expenditure.								
A. "Conservancy and works"	2,20,443	2,18,009	2,64,298	2,18,513	2,43,096	2,69,250	+ 24,583	— 26,154
B. "Establishments" ..	2,14,523	2,35,785	2,20,244	2,39,817	2,48,459	2,58,750	+ 8,642	— 10,291
Total, Expenditure ..	4,34,966	4,53,794	4,74,542	4,58,330	4,91,555	5,28,000	+ 33,225	— 36,445
Net results ..	1,17,282	1,10,929	1,42,378	1,48,280	2,53,992	1,37,500	+ 1,05,712	+ 1,16,492

The revenue has increased considerably, the surplus of the year being Rs. 2,53,992, which is far greater than in any previous year notwithstanding the increased expenditure.

59. The increase under revenue is chiefly contributed by the transfer to Government of the revenue from the Rampa forests in Godávari; by crediting to "Forests" instead of to "Land Revenue" the sale-proceeds of soap-nut trees on darkhast lands and the usufruct of tamarind topes in Kistna; by the large increase in mica rents in Nellore; and by the sale of railway fuel and sandalwood in Kurnool and the Nílgiris respectively.

The increased expenditure under A. "Conservancy and Works" and B. "Establishments" is justified by the increased receipts.

60. Form No. 67 gives the distribution of revenue and expenditure under the 3 heads of "Departmental timber works," "Other revenue" and "Improvement of forests." The ratios adopted are the same as those of last year, viz., Vizagapatam 1, Bellary, Anantapur and Nílgiris 2 each and the rest 3 twenty-fifths.

61. Forms 73 (*a*) and 73 (*b*) show the comparison between the value of timber and plant respectively at the beginning and the end of the year. To compare the surplus to the credit of the department this year with that of last year, the same form is adopted, viz. :—

	Rs.
Net revenue	2,53,992
Outstanding revenue	5,798
Difference of value of plant (73-*b*)	16,357
Total ...	2,76,147
Deduct difference of value of timber (73-*a*)	4,220
Surplus to credit ...	2,71,927

The surplus for the year 1889–90, calculated in the same way, was, Rs. 1,57,330, leaving a comparative balance of Rs. 1,14,597 in favour of the year under report.

CHAPTER VII.

General Remarks.

62. As regards the work during the year of the District Forest officers and the other Gazetted Officers Mr. Peet has left no recorded notes. The Acting Conservator from such matters as have come before him from the various districts has reason to believe that they have worked with energy and success and to the satisfaction of the Collectors of their Districts.

63. The remarks in the district reports regarding the work performed by the Upper Subordinate Establishment, is on the whole, satisfactory. The sickly climate of the hill ranges in most of the districts of the circle is a constant cause of difficulty in administration for, energetic men are constantly ill and their places are taken by men who fear the forests and in consequence avoid them. Some difficulty has been experienced in recruiting for the department, but with the superior inducements now about to be held out it is hoped that a more steady supply of acceptable men will be forthcoming and the constant reference to Government for sanction to employ unpassed men will be obviated.

64. The health of the Department has been on the whole bad. Apart from the usual severe attacks of fever which are inseparable from a forest officer's life in India, we have to record the very serious illness of one officer with liver abscess from which he luckily recovered sufficiently to take sick leave to England.

65. *Forest School.*—Three Foresters were sent to the Forest School during this year. One Forest Ranger deputed in 1889 having obtained the Rangers' certificate returned to this Presidency.

APPENDIX A.

Experiments and Exotics.

Arabian Dates.

Godávari.—No experiments were made during the year; but it is reported that the Arabian date plants planted in previous years are doing well. In the Ramasarampeta reserve, a number of seeds germinated and about 200 seedling plants survive.

Cuddapah.—In the plantation behind the Ballapalle nursery, 190 Arabian date plants were planted, of which 40 died. It is reported, however, that those planted in previous years are well established and thriving. In the Reddipalli plantation, casualties were numerous, only 214 seedlings surviving out of 1,253, but it is anticipated from experience that some of the apparently dead ones will revive when the rains come on.

Persian Dates.

The date seedlings basketted in 1889–90 have been distributed as follows:—

Planted at Reddipalli	890
Given out free of charge for trial at Cuddapah and Madanapalle ...	24
Supplied to the Public Works Department	265
Died	361

The Public Works Department was supplied also with 235 off-sets of standard date from Ballapalle nursery for a plantation near the Cuddapah-Kurnool canal.

Kurnool.—All the plants, 25 in number, at Bairnuti look fairly healthy, but do not make much progress in growth. Of those planted in the Cumbum range, all died at Bodisowa and only 40 survive at Gundalamotu, but even these are not healthy.

Anantapur.—A nursery of 50 square yards was formed in the Khojjapalle reserve and Egyptian and bazaar-imported date seeds were sown and the results are:—

—	Number sown.	Number germinated.	Percentage.	Number of plants surviving.
Egyptian date	325	103	68·3	45
Bazaar date	2,500	1,600	36	1,594

Nilgiris.—Of the Cabul date plants planted at Kullar, nearly half died. The others are alive, but are growing very slowly. The nursery at Moyar was abandoned, as all the date plants were destroyed by elephants.

Mahogany.

Kistna.—The mahogany plants at Kanukollu and Bezwada are thriving well. They are from 5 to 10 feet high.

Cuddapah.—Most of the mahogany trees at Pullagundalamaddu have died, those at Arimanibunda are alive but are not healthy.

Nilgiris.—The mahogany and *Swietenia macrophylla* plants, planted between the years 1885 to 1890 in compartments 1 to 5 of block No. IV of the Kullar reserve, are growing fairly. Some of the trees have attained a height of from 15 to 18 feet. Those planted in moist places, especially near streams, are very healthy; but others in dry places look unhealthy and have been attacked by a borer. The *Swietenia macrophylla* plants were removed to Bonné and planted out near the rest-house.

Eucalyptus.

Cuddapah.—At Mogilipenta 41 out of 47 eucalyptus died. The remaining six are about 10 feet high. On Horsleykonda, the trees are doing well, but some are inclined to be weedy, and two were broken off by high winds.

Nilgiris.—The various species of eucalyptus planted in previous years at Sims' Park and Lovedale are growing indifferently.

Various species.

Kistna.—About 4 lb. of seeds of Red Sanders were received from Cuddapah and sown in Kondapalli and Kondavid nurseries. Only about 10 per cent. of the seeds germinated.

Seeds of Thamba (*Shorea Tumbuggaia*) also were obtained from Cuddapah and tried in Kondapalli and Kondavid, but failed to germinate.

In the Bezváda nursery about 30,000 seedlings of soap-nuts, margosa, tamarind, dirisinam (*Albizzia Lebbek*) and kanuga (*Pongamia glabra*) were raised and 20,000 are kept ready basketted for planting up in the rains of 1891. On the Bezváda hill, which is almost bare, during the year 10,000 seedlings of Néredu (*Eugenia jambolana*) and Maddi (*Terminalia*) were planted out 6 feet apart in lines 10 feet apart. Ninety-five per cent. of these grew up. Some of them are now showing signs of withering owing to the excessive temperature in the shade which varies from 106° to 110°. As most of the plants are on the western slope of the hill, small stone walls 1 to 2 feet high have been erected to shelter each plant.

Nellore.—The seeds of several kinds of trees were sown at Sriharikóta, but the plants are reported to have died except those of *Albizzia procera.*

Cuddapah.—From the Balapalle nursery 1,844 seedlings of various indigenous trees were issued and planted in the Settigunta and Seshachalam reserves, but it is feared that many of them will not stand the severity of the present season.

Of the *Erythroxylon coca* plants 15 at Balapalle and 5 at Horsleykonda are doing well, while those planted at Cuddapah and Madanapalle failed.

Of 700 *Corypha elata* seedlings raised in 1889-90, 93 died, the rest are being planted at angles of reserve boundary lines and are thriving. Two seedlings only remain of Carob (*Ceratonia siliqua*).

In Horsleykonda, trees of *Acrocarpus fraxinifolius* are thriving excellently; some of them have attained 20 feet in height already. A large number of seedlings are now being raised for planting up the slopes of the hill.

Nilgiris.—During the year a small quantity of seeds of the following exotics were sown in the Lovedale nursery:—

(1) *Pinus cembra.*
(2) „ *Halepensis.*
(3) „ *Laricio Austriaca.*
(4) *Sequoia sempervirens.*
(5) *Picea excelsa.*
(6) *Cryptomeria Japonica.*
(7) *Bucklandia populifolia.*

Of these (1), (4) and (7) did not germinate at all, while all others have germinated. The plants are doing well in beds. They will be planted out as soon as the south-west monsoon sets in.

In Sims' Park the *Bucklandia populifolia* sown did not germinate at all.

The following seeds and plants were received for experiment at Kullar with the results noted against them:—

Name of seed.	Where sown.	When sown.	Quantity.	Result.
1. *Areca Madagascariensis* ..	Kullar	12th April 1890	2 lb.	Germinated and thriving well.
2. *Dendrocalamus Hamiltonii* ..	Do.	28th May „	1½ „	Only two plants are surviving and the others failed.
3. *Corypha umbraculifera* ..	Do.	13th Oct. „	6 oz.	Germinated and doing well.
4. *Red Sanders*	Do.	12th Nov. „	10 lb.	Do. do.
5. *Shorea Tumbuggaia* ..	Do.	12th „ „	10 „	Do. do.

Three plants of *Beesha Travancorica* were also received from Pálghat and planted at Kullar. They are thriving. *Dendrocalamus Hamiltonii* seeds sown at Moyar did not germinate.

Bamboos.

Kurnool.—The bamboo seeds (140 seers) sown in the Yerramalais in 1889-90 have all failed except 2,000 seedlings in Tekulakonda reserve and 100 in South Dhone.

It will be seen that much of the matter recorded in this appendix has already appeared in the body of the report. This was unavoidable.

APPENDIX B.

STATEMENT showing the cost and yield up to 31st March 1891 of the Casuarina plantations in the Nellore and Gúdúr taluks, Nellore district.

Plantations.	Compartment number.	Area	Year of planting	Total expenditure up to 31st March 1891.	Cost per acre.	Approximate return up to 31st March 1890.		Yield during 1890-91.					Approximate return during 1890-91.		Grand Total.	
						Yield up to 31st March 1891.	Amount.	Selection felling.	Dead wood outing.	Clean felling.			Rate.	Amount.	Total tons 7 and 13.	Amount 8 and 15.
								Tons.	Tons.	Area.	Tons.	Total.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
				Rs.	Rs.		Rs.						Rs.	Rs.		Rs.
Dugarázpatnam	1 & Extra interplanted.	45	1873 1874	10,132	225	1,838	10,727	..	29	..	..	29	4	116	1,867	10,843
	2	26	1874	6,908	265	590	3,539	..	..	..	..	..	..	..	590	3,539
	3	30	1875	6,449	215	754	4,524	..	..	..	..	..	..	..	754	4,524
	4	59	1880	3,397	57	896	4,677	85	16	..	..	101	..	104	997	5,081
	5	104	1881	4,416	42	914	5,192	325	51	..	..	376	..	1,504	1,290	6,696
	1882	4	1882	..	..	33	194	25	..	..	..	25	..	100	58	294
	1883	73	1883	3,585	49	96	428	..	65	..	..	65	..	260	161	688
	1884	60	1884	2,583	43	9	54	..	83	..	..	83	..	322	92	386
	1885	30	1885	1,545	52	..	..	..	..	..	..	..	..	..	..	..
	1886	60	1886	443	7	..	..	..	..	..	..	..	..	..	..	..
	1887	100	1887	1,104	11	..	..	..	..	..	..	..	..	..	..	..
	1888	80	1888	2,108	26	..	..	..	..	..	..	..	..	..	..	..
	1889	10	1889	327	33	..	..	..	..	..	..	..	..	..	..	..
	1890	40	1890	385	10	..	..	..	..	..	..	..	..	..	..	..
Village tope casuarina	1883	4	1883	132	33	43	172	..	..	..	..	..	..	..	43	172
Ebrows tope	Resumed	19	By Government under tope rules.			504	3,024	..	..	..	..	..	..	..	504	3,024
Salt tope	..	4	..	..	..	35	210	..	..	..	..	..	..	..	35	210
6. Islands in backwater	..	7	..	..	..	6	30	..	11	..	..	11	..	44	17	74
Kottapatam	1 Interplanted.	24	1873 1874	6,005	250	1,154	6,924	..	..	..	..	..	..	..	1,154	6,924
	2	24	1874	6,536	272	884	5,304	..	..	..	..	..	..	..	884	5,304
	3	32	1875	6,170	139	1,496	8,976	..	..	..	..	..	..	..	1,496	8,976
	4	40	1880	3,082	77	273	1,533	..	..	..	..	..	..	..	273	1,533
	5	112	1881	4,408	39	1,086	6,373	..	..	..	..	..	..	..	1,086	6,373
	1882	16	1882	..	..	..	..	..	..	..	..	..	..	..	..	..
	1883	22	1883	1,046	48	40	194	..	..	..	..	..	..	..	40	194
	1884	37	1884	1,591	43	..	..	..	..	..	..	..	..	..	..	..
	1885	30	1885	986	33	..	..	..	..	..	..	..	..	..	..	..
	1886	25	1886	222	8	..	..	..	..	..	..	..	..	..	..	..
	1887	50	1887	1,598	32	..	..	..	..	..	..	..	..	..	..	..
	1888	50	1888	1,262	25	..	..	..	..	..	..	..	..	..	..	..
	1889	30	1889	637	21	..	..	..	..	..	..	..	..	..	..	..
	1890	50	1890	331	6	..	..	..	..	..	..	..	..	..	..	..
Chatram tope	Resumed by Government under tope rules.				..	120	720	..	..	..	..	..	..	..	120	720
Pennanji do.					..	169	1,014	..	..	..	..	..	..	..	169	1,014
Royalpolium tope	..	..	..	..	..	13	65	..	..	..	..	..	..	..	13	65
Taminapatam	1 Interplanted.	41	1873 1874	12,143	196	769	4,614	..	..	..	..	..	..	..	769	4,614
	2	59	1874	9,576	162	1,008	6,048	..	..	..	..	..	..	..	1,008	6,048
	3	29	1875	7,878	272	587	3,522	..	..	..	..	..	..	..	587	3,522
	4	64	1880	3,808	59	377	1,788	45	31	..	..	76	..	304	453	2,092
	5	139	1881	5,779	42	155	872	69	117	..	..	186	..	744	341	1,616
	1882	81	1882	84	1	182	1,092	..	8	..	..	8	..	32	190	1,124
	1883	68	1883	2,302	33	1	6	..	10	..	..	10	..	40	11	46
	1884	30	1884	1,267	42	..	..	..	17	..	..	17	..	68	17	68
	1885	10	1885	381	38	..	..	..	..	..	..	..	..	..	..	..
Around wells of No. 1	1886	4	1886	262	65	..	..	..	..	..	..	..	..	..	..	..
Resumed by Government	..	4	Under tope rules		..	118	708	..	..	..	..	..	..	..	118	708
Around wells of Nos 2 and 3.	1887	20	1887	1,223	61	..	..	..	..	..	..	..	..	..	..	..
	1888	20	1888	791	40	..	..	..	..	..	..	..	..	..	..	..
	1890	10	1890	112	11	..	..	..	..	..	..	..	..	..	..	..

Statement showing the cost and yield up to 31st March 1891 of the Casuarina plantations in the Nellore and Gúdúr taluks, Nellore district—*cont.*

Plantations.	Compartment number.	Area.	Year of planting.	Total expenditure up to 31st March 1891.	Cost per acre.	Approximate return up to 31st March 1890.		Yield during 1890-91					Approximate return during 1890-91.		Grand Total.	
						Yield up to 31st March 1891.	Amount.	Selection felling.	Dead-wood cutting.	Clean felling.			Rate.	Amount.	Total tons 7 and 13.	Amount 8 and 15.
								Tons.	Tons.	Area.	Tons.	Total.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
				Rs.	Rs.		R.						Rs.	Rs.		Rs.
Vutukur	1	32	1875	7,527	232	94	470	..	208	..	..	208	..	832	302	1,302
	2	32	1880	3,927	122	22	120	..	124	..	..	124	..	496	146	616
	3	84	1881	4,824	57	8	40	..	139	..	..	139	..	556	147	596
Varany	1 Interplanted.	40	1873 1874	10,339	258	288	1,210	647	8	..	..	655	..	2,620	943	3,830
	2	40	1874	8,011	223	433	1,847	167	102	..	..	269	..	1,076	702	2,923
	3	40	1875	8,108	202	171	734	..	47	..	..	47	..	188	218	922
	4	40	1880	3,189	80	148	627	..	2	..	..	2	..	8	150	635
	5	80	1881	4,256	53	196	796	..	79	..	..	79	..	316	275	1,112
	1883-84	3	1883 and 84	121	40	..	..	..	..	..	..	..	..	..	.	..
Allipuram	1	18	1870	8,580	476	146	730	..	..	..	..	..	..	..	146	730
	2	36	1881	707	20	85	340	..	..	..	..	..	..	..	85	340
Iskapalli	..	6	1870	960	160	104	520	..	..	..	..	..	..	..	104	520
	..	2,327	..	184,533	80	15,845	89,958	1,363	1,147	..	..	2 510	..	10,040	18,355	99,998
						Increase in re-weighing				..	..	55				
												2,565				

APPENDIX C.

STATEMENT showing the yield of several compartments felled and thinned during the year 1890–91, according to the plan of operations, Nilgiri district.

Range.	Working circle.	Name of the reserve and block.	Compartment.	Area thinned or felled. Acres.	Area thinned or felled. Cents.	Age when thinned or felled.	Number of trees felled.	Firewood. Firewood lots. No.	Firewood. Firewood lots. Cubic feet.	Firewood. Head-loads No.	Firewood. Head-loads Cubic feet.	Firewood. Bullock-loads No.	Firewood. Bullock-loads Cubic feet	Drag poles. No.	Drag poles. Cubic feet.	Total yield in cubic feet.	Number of belt trees.	Number of standard left.	Total trees.	Estimated quantity of standing trees in cubic feet.	Total yield in cubic feet.	Yield per acre in cubic feet.
1	2	3	4	5		6	7	8		9		10		11		12	13	14	15	16	17	18
Ootacamund.	Cairn Hill working circle.	Cairn Hill reserve block No. IX.	9	4	50	13	1,786	203	20,300	1,903	1,903	..	..	..	..	22,203	..	..	1,786	..	22,203	4,934
	Aramby working circle.	Aramby reserve block No. IV.	7	3	25	14	1,953	216	21,600	1,287	1,287	..	..	..	..	22,887	..	..	1,953	..	22,887	68,581
	Do. ..	Do. ..	9	3	..	14	629	120	12,000	415	415	..	..	..	..	12,415	..	..	629	..	12,415	4,138
Coonoor.	Coonoor Peak working circle.	Coonoor Peak reserve block No. III.	19	2	..	17	245	63	6,300	346	346	10	40	140	140	6,826	25	107	377	4,000	10,826	5,413
	Do. ..	Coonoor Peak reserve block No. IV.	33	5	..	17	991	211	21,100	916	916	33	132	..	..	22,148	..	470	1,461	15,000	37,148	7,429
	Bleak-house working circle.	Bleak house reserve.	2	8	..	..	204	25	2,500	4,735	4,735	145	580	..	..	7,815	..	200	404	2,500	10,305	1,288

Annual Form No. 59-A.

Forest Department, Madras, Northern Circle.

Area of Reserved Forests, 1890-91.

District.	Range.	Name of Forest.	Area on 1st April 1890.		Added during the year	Excluded or transferred to other heads.	Area on 31st March 1891.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres	Acres.	Acres.	Equivalent in square miles.		
Ganjam.	Chokapad (West Goomsur).	Dimrijholi .. .	5,486	...	..		5,486	.	. ..	
	Pondakhol (Suradá).	Bondagocha .	4,400		.	...	4,400			
	Bodoboro-singhi (do).	Malati	1,720	.		.	1,720			
	East Gumsur.	Jaganathprasad			26,200	...	26,200		No 319 of 17th July 1890.	
	Suradá (Pondakhol).	Dabuki			1,450		1,450	.	No. 445 of 3rd Oct 1890	
	Do. (Badoborosinghi).	Vinjagiri ..			6,000		6,000		No. 31 of 28th Jan 1891.	
	Buguda .	Panchabuthi			4,320		4,320	..	No 53 of 12th Feb. 1891.	
	Do.	Vishnuchakram ..	.		4,860		4,860	..	No. 68 of 16th Feb 1891.	
		Total	11,606	18	42,830		54,436	85		
Vizagapatam.	Sarvasiddhi.	Peddapalle	8,960			* 6,440	2,520			
		Total	8,960	14		6,440	2,520	4		
Godávari.	Delta .	Narasápur . ..	114			.	114		..	
		Coringa	7,000			.	7,000		.	
		Bendemurlanka	362				362		.. .	
	Bhadráchalam.	Pulsumamidi	4,520			.	4,520		..	
		Marigura ..	44,500			..	44,500			
		Mattapalli	9,500				9,500			
		Nelakota .			2,500		2,500		No. 145 of 27th March 1890.	
		Komanpalli	. .	...	3,250		3,250		No. 159 of 9th April 1890.	
	Rókapalle.	Bandroe .	...		10,900		10,900		No. 159 of 9th April 1890.	
		Golagupa ...	...		8,000	.	8,000			
		Narakonda .	.		7,500		7,500			
		Pongha ...	.		4,400		4,400			
		Upanapali ..		.	3,300		3,300			
		Tatlanka ...	...		12,000		12,000			
		Ramachendram ...	.	.	10,300		10,300			
		Rapák ...	...	.	7,000		7,000			
		Sitarampuram ..	...		3,000		3,000	..		
		Bhandargudem			7,100	...	7,100	.		
		Burkankota	...		1,500	...	1,500			
	Ellore	Chintalapudi	..		2,000	...	2,000	.	No. 192 of 5th May 1890.	
	Peddapur ...	Murari ...	...	..	700		700		No. 254 of 16th June 1890.	
	Ellore	Tadikalapudi	...	.	2,500	.	2,500	..	No. 260 of 16th June 1890.	
		Bandamcherla .	...		5,200	...	5,200		No. 266 of 16th June 1890.	
	Bhadráchalam.	Mulkanapalle ..	...	.	3,658		3,658	.	No. 288 of 30th June 1890	
		Dummagudem	...		6,110		6,110	...		
		Arlagudem .	.		6,136	...	6,136	...		
		Tunikicheruvu	...		8,022		8,022	...		
		Bhadráchalam	...	.	10,860	...	10,860	...		
		Gogubaka	...	...	1,666	...	1,666	...		
	Ellore .	Barrikonda	.	.	3,500	...	3,500	.	No. 295 of 30th June 1890.	
		Erranguntapalle .	..	...	8,640		8,640	...	No. 333 of 21st July 1890.	
		Velagalapalle Blocks I and II.	.	...	2,200	.	2,200	...	No. 343 of 21st July 1890	

* Revised Estimate of area.

Area of Reserved Forests, 1890-91—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1890. Acres.	Area on 1st April 1890. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1891. Acres.	Area on 31st March 1891. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Godávari —*cont.*	Rékapalle	Lakkavaram	..	.	6,500		6,500	..	No. 446 of 3rd Oct. 1890.	
		Kallern		.	6,500		6,500		No 52 of 12th Feb. 1891.	
		Total	65,996	* 103	154,942		220,938	345		
	Bandar	Kara	21		...		21		..	
		Vanudhuru	64		...	.	64			
		Bomminampadu	26				26	.	..	
		Vémavarampadu	16	.			16	..		
		Allinagaram	125				125		.. ...	
		Bandar Fort			7,500		7,500		No. 197 of 13th May 1890.	
		Kodur			50		50		No. 233 of 4th June 1890.	
		Gollapalem	.		390	. .	390	..	No. 258 of 16th June 1890.	
		Sorlagondi ..	.	...	2,880		2,880	.	No. 287 of 30th June 1890.	
		Yella chetladibba	.		4,640		4,640		No. 303 of 8th July 1890	
		Konukollu		.	667	..	667		No. 361 of 7th Aug. 1890.	
		Nachugunta ...			8,640		8,640		No. 370 of 9th Aug 1890.	
	Bezváda	Gavuravaram	84			..	84		. .	
		Bezváda	300		..	..	300		.	
		Gunadala .	400		..	.	400		..	
		Kondapalle extension	1,225	.			1,225		...	
		Budavada	.		4,650		4,650		No. 323 of 16th July 1890.	
		Jaggayapet ...			4,570		4,570		No. 435 of 22nd Sept 1890.	
Kistna.	Guntúr	Nidumarru	383				383			
		Karlapudi	994	.	..		994		...	
		Narakodur		..	515		515		No. 85 of 18th Feb. 1890.	
		Kuragallu .. .		..	1,305		1,305		No. 292 of 30th June 1890.	
		Tadépalli			2,305		2,305		No. 384 of 9th Aug. 1890.	
		Kondavid			12,857		12,857		No. 396 of 29th Aug. 1890.	
	Krósúr	Konanki	3,600	..		..	3,600			
		Bellamkonda .	1,380				1,380		..	
		Venkatayapalem .	..		46,201		46,201		No. 535 of 20th Nov. 1890.	
	Palnád	Tummurukodu	24		.		24			
		Gangalakunta ..	24,461	.	...	...	24,461		.	
		Madinapad .			9,600	.	9,600		No. 200 of 13th May 1890	
	Vinukonda	Bollapalli ..			40,000	.	40,000	.	No. 504 of 18th Nov. 1890.	
		Kakirala . ..	.		17,520		17,520		No. 21 of 20th Jan. 1891.	
	Bápatla ..	Lankavanidibba .	4,480	.	..		4,480	..		
		Kothapalem ...	3,840	.			3,840	..	.	
		Dindi . .	600		.		600	...	..	
		Adavuladivi ...	610	.			610			
		Bápatla I ...	245				245		.	
		Do. II	1,032			...	1,032		.	
		Karlapalem I ...	105		...	..	105		...	
		Do. II	208		.	..	208		.	
		Vedullapalli	166	...		..	166			
		Muthayapalem ...	...	..	9,569	..	9,569	.	No. 121 of 12th Mar. 1890.	
		Pandillapalli ...		.	162	.	162	.	No. 365 of 7th Aug. 1890.	
		Waderevu .	..		82		82	.	No. 379 of 9th Aug. 1890.	
		Kothapalem, No. II..	.	...	3,100	.	3,100	..	No. 382 of 9th Aug. 1890.	
		Total ...	44,389	69	177,203	...	221,592	346		

* Last year it was 103½.

Area of Reserved Forests, 1890-91—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1890.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1891.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Nellore.	Ongole ...	Kottapatam ...	147	...	...	...	147	...	.....	
		Kanuparti	520	...	...	...	520	...	.....	
		Ongole Hill ...	...	...	60	...	60	...	No. 501 of 11th Nov. 1890.	
	Kandukúr	Ramapatam Casuarina Plantation.	60	...	...		60	...	.....	
		Chegollu	1,010	...	...	...	1,010	...	.....	
		China Laterapi ..	1,548	...	...	...	1,548	...	.....	
		Ravur	2,187	...	...	...	2,187	...	.....	
		Chakicherla ..	...	...	323	...	323	...	No. 190 of 5th May 1890.	
		Ramapatam ...	...	...	1,516	...	1,516	...	No. 198 of 13th May 1890.	
		Boddipudi ...	...	...	500	...	500	...	No. 207 of 21st May 1890.	
		Gudlur	..	...	3,297	...	3,297	...	No. 497 of 17th Nov. 1890.	
	Kávali ...	Tummalapenta ...	100	...	...	...	100	...	.....	
		Maddurpaud ...	2,012	...	...	...	2,012	...	.....	
		Zaladanki, East ...	600	...	...	...	600	...	.....	
		Do. West ...	1,254	...	...	...	1,254	...	.....	
		Tummulapenta, South	392	...	...	...	392	...	.....	
		Dharmavaram ...	189	...	...		189	...	.....	
		Zammalapalem ...	1,130	...	...	...	1,130	...	.....	
		Rudrakota	2,100	...	...	...	2,100	...	.....	
		Gattupalli	838	...	..	...	838	...	.....	
		Gollapalem	960	...	...		960	...	.....	
		Tallapalem	848	...	...	...	848	...	.....	
		Manubolupaud ...	1,192	...	...	...	1,192	...	.....	
		Kávali	...	...	2,000	...	2,000	...	No. 144 of 27th Mar. 1890.	
		Dundigam	...	...	515	...	515	...	No. 151 of 28th Mar. 1890.	
		Chamadala	...	...	750		750	..	No. 196 of 13th May 1890.	
		Zakképalli—Gudur...	...	...	800	...	800	...	No. 202 of 13th May 1890.	
		Nagalavaram ...	...		414	...	414	...	No. 259 of 20th June 1890.	
		Tummalapenta, West	...	...	2,280	...	2,280	...	No. 271 of 16th June 1890.	
		Bitragunta	...	...	1,908	...	1,908	...	No. 272 of 16th June 1890.	
		Narayanapuram ...	...	...	2,392	...	2,392	...	No. 290 of 30th June 1890.	
		Kesavaram	...	..	908	...	908	...	No. 360 of 7th Aug. 1890.	
		Chinna Annalur ...	...	...	3,400	..	3,400	...	No. 141 of 28th Mar. 1890.	
	Nellore ...	Iskapallo	23	...	...	...	23	...	.....	
		Kandamur	1,520	..	...	...	1,520	..	.....	
		Kakutur	480	...	...	...	480	...	.....	
		Dontali	1,280	..	.	...	1,280	...	.....	
		Chemudugunta ...	320	...	...	...	320	...	.....	
		Utukur-Varni Casuarina Plantation.	607	...	...	...	607	...	.....	
		South Mopur ...	1,000	...	...	...	1,000	...	.....	
		Kottapalli	...	...	4,230	...	4,230	...	No. 238 of 6th June 1890.	
		Marripad	...	...	1,400	..	1,400	...	No. 269 of 20th June 1890.	
		Turimerla	...	...	620	...	620	...	No. 320 of 17th July 1890.	
		Allipuram	...	...	125	..	125	...	No. 332 of 21st July 1890.	
		Amencherla, East ...	...	...	960	..	960	...	No. 362 of 7th Aug. 1890.	
		Do. West...	...	...	480	...	480	...	No. 363 of 7th Aug. 1890.	
		Vavveru	...	...	2,970	...	2,970	...	No. 447 of 3rd Oct. 1890.	
		Dagadarti	...	...	2,866	...	2,866	...	No. 483 of 30th Oct. 1890.	

Area of Reserved Forests, 1890-91—*cont.*

District	Range.	Name of Forest.	Area on 1st April 1890. Acres	Area on 1st April 1890. Equivalent in square miles.	Added during the year. Acres	Excluded or transferred to other heads. Acres	Area on 31st March 1891. Acres.	Area on 31st March 1891. Equivalent in square miles	Number and date of notification of addition or transfer.	Remarks.
Nellore —*cont.*		Dugarazpatnam	1,200		...		1,200			
		Kanupur, East	960		...	...	960			
		Vendodu	818	.	..	..	818			
		Idagali ..	480		...	..	480		... .	
		Vodúr	883			.	883		..	
		Gúdúr	950		.	...	950	...	.	
		Tammenapatam Casuarina Plantation	485	.			485	...	.....	
		Cherukumudi	640				640	.	..	
		Vellipedu ...	720		.		720			
		Chillakur	460				460			
		Vinduru	300			..	300			
		Nellabalh .			275	..	275		No 135 of 24th Mar 1890	
	Gúdúr ...	Kadived, South ..			450		450	.	No 137 of 24th Mar 1890	
		Do North ...			468		468		No. 143 of 27th Mar 1890	
		Ankalapatur		...	240		240		No. 157 of 9th April 1890	
		Pidatalapudi ..		.	750	.	750		No 185 of 1st May 1890	
		Madamanur		.	560		560	..	No 231 of 4th June 1890	
		Kanupur, West			1,974	.	1,974		No. 268 of 20th June 1890	
		Ipuru ...		.	1,033		1,033		No 330 of 21st July 1890.	
		Survépalli			2,750	.	2,750		No 420 of 19th Sept 1890	
	Atmakúr	Telugurayapuram ..	763	...			763	..		
		Srikolanu .	1,521				1,521	.		
		Chejerla	1,121				1,121			
		Turupukambampad		...	861		861	..	No 227 of 4th June 1890.	
		Bommavaram			3,000		3,000		No. 247 of 9th June 1890.	
		Prabhagiripatnam		.	2,500	...	2,500		No 249 of 9th June 1890	
	Rápúr	Turimerla	640				640			
		Pulikollu			740		740		No. 122 of 12th Mai 1890.	
		Morapur			3,130	...	3,130	.	No. 235 of 4th June 1890.	
		Todaru			750	...	750		No 262 of 16th June 1890.	
		Vutukur			725		725		No 265 of 16th June 1890	
		Duggunta			1,200		1,200		No 305 of 8th July 1890	
		Mogallur			957		957		No. 318 of 16th July 1890.	
		Ayyavaripalem			320		320		No 334 of 21st July 1890.	
		Chikavolu	..	...	1,100		1,100		No. 336 of 21st July 1890	
		Chittalur			515		515		No 338 of 21st July 1890	
		Nellapalli ...	...		2,100		2,100	.	No. 341 of 21st July 1890	
		Turupupundla .		...	1,000		1,000		No. 342 of 21st July 1890.	
		Vavintaparti	...		1,300		1,300		No. 421 of 19th Sept. 1890	
		Tummalatalpur	.	.	4,000		4,000		No. 422 of 19th Sept. 1890.	
		Chaganam			1,500		1,500	...	No. 430 of 22nd Sept. 1890	
		Vadlapudi .		...	2,400		2,400		No. 499 of 11th Nov. 1890.	
		Biradavolu	.		2,250		2,250		No 500 of 11th Nov. 1890.	
		Total ...	34,258	* 53½	73,562		107,820	168½		

* Last year it was wrongly entered as 54½ square miles.

Area of Reserved Forests, 1890-91—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1890.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1891.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Cuddapah.	Kódúr ...	Kódúr Plantation ...	50	...	...	...	50	...	.....	
		Thanakonda ...	1,048	...	...	...	1,048	...	.....	
		Uparapalle	108	...	...	...	108	...	.....	
		Kódúr Hill	7,440	...	...	...	7,440	...	.....	
		Seshachellam ...	128,000	...	...	...	128,000	...	.....	
		Settikunta	8,960	...	..	...	8,960	...	.....	
	Rájampet	Saliveudra	12,800	...	...	...	12,800	...	.....	
		Pullampet	426	...	...	...	426	...	.....	
		Reddipalle	1,284	...	...	...	1,284	...	.....	
		Vattalúr	2,880	...	...	...	2,880	...	.....	
	Sidhout	Kanamalapalle ...	4,435	...	...	...	4,435	...	.....	
		Malliamkonda ...	10,240	...	..	...	10,240	...	.....	
	Badvél	Kavalakuntla ...	9,920	...	...	...	9,920	...	.....	
		Ganugaponta ...	14,080	...	...	...	14,080	...	.....	
	Cuddapah...	Kamalapuram ..	485	...	...	...	485	.	.....	
	Ráyachóti	Sibbyála	3,500	...	...	...	3,500	...	.....	
		Tsundupalle ...	3,000	...	...	...	3,000	...	.....	
		Gadikota	12,462	...	...	...	12,462	...	.....	
		Vandadi Hill ...	...	...	3,390	...	3,390	...	No. 346 of 1st Aug. 1890.	
	Váyalpád ..	Yellutla	2,840	...	..	...	2,840	...	.....	
	Madanapalle.	Kotammakonda ...	640	...	...	...	640	...	.....	
		Total ..	224,598	351	3,390	...	227,988	356		
Kurnool.	Cumbum...	Veligondas, South ...	...	...	16,755	...	16,755	...	No. 434 of 22nd Sept. 1890.	
		Do. North ...	...	...	21,540	...	21,540	...	No. 506 of 20th Nov. 1890.	
	Sirvél ...	Sirvél	...	...	116,730	...	116,730	...	No. 69 of 16th Feb. 1891.	
		Total ...	...	...	155,025	...	155,025	242		
Bellary.	Bellary ...	Timmapuram ...	1,046	...	...	...	1,046	...	.....	
		Tekkalakota ...	...	...	600	...	600	...	No. 70 of 16th Feb. 1891.	
	Bellary & Hospet.	Bellary	...	...	8,000	...	8,000	...	No. 164 of 15th Apl. 1890.	
		Tornagallu	...	...	2,100	...	2,100	...	No. 463 of 18th Oct. 1890.	
	Bellary & Rayadrug.	Mincheri	...	...	4,000	...	4,000	...	No. 221 of 3rd June 1890.	
	Ráyadrug ...	Aduguppa	...	...	950	...	950	...	No. 160 of 9th Apl. 1890.	
	Hospet ...	Joga	...	...	3,264	...	3,264	..	No. 60 of 10th Feb. 1891.	
	Kudlighi, Hospet & Hadagalli.	Shivapuram ...	...	...	9,000	...	9,000	...	No. 57 of 10th Feb. 1891.	
	Kúdlighi.	Gollalingammanahalli.	1,000	...	...	...	1,000	...	.....	
		Somalapuram ...	...	...	2,600	...	2,600	...	No. 148 of 26th Mar. 1890.	
		Tumbaragudi ...	...	...	2,500	...	2,500	...	No. 199 of 13th May 1890.	
		Oherbi	...	...	3,000	...	3,000	..	No. 432 of 22nd Sept. 1890.	
		Sunkadakal ...	...	...	7,000	...	7,000	...	No. 73 of 16th Feb. 1891.	
	Ádóni ...	Halvi	...	...	1,209	...	1,209	...	No. 433 of 22nd Sept. 1890.	
		Halekota	...	...	438	...	438	...	No. 261 of 16th June 1890.	

Area of Reserved Forests, 1890-91—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1890. Acres.	Area on 1st April 1890. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1891. Acres.	Area on 31st March 1891. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Bellary —*cont.*	Alur ..	Gummanur (N., N.-E. N.-W.).	..	...	646	.	646		Nos. 98, 99 & 100 of 25th Feb. 1890.	
		Yérura (S., S.-W., W.)	..	..	522	.	522	...	Nos. 101 & 102 of 25th Feb. 1890, 337 of 21st July 1890.	
		Chippigiri (S., S.-E., W.).	...	...	1,160	...	1,160	...	Nos. 103 & 104 of 25th Feb. 1890, 339 of 21st July 1890.	
		Degalahalu	...	...	110	...	110	...	No. 142 of 28th Mar. 1890.	
		Total ...	2,046	3	47,099	...	49,145	77		
Anantapur.	Gooty ...	Khojjapallo ..	367	...	...	.	367	..	.. ...	
	Anantapur.	Anantapur ..	131	...	...	...	131	...	.. ...	
	Penukonda.	Narasampallo	1,280	...	...	...	1,280	..	.....	
		Kottakotá ...	5,120	..	...	...	5,120	..	. ...	
	Hindupur ..	Somarajmalai ...	1,920	...	...	...	1,920	...	...	
		Total ..	8,818	*14	...	...	8,818	14		
Nilgiris.	Ootacamund.	Marliamund Plantation.	17	...	..	...	17	...	... ..	
		Aramby	430	...	...	...	430	...	.....	
		Marliamund ...	194	.	...	..	194	...	.....	
		Cairn Hill	559	...	...	...	559	...	.....	
		Brooklands . ..	177	..	...	...	177	...	.....	
		Lovedale	296	...	...	...	296	...	.....	
		Craigmore	299	...	...	...	299	...	... ..	
		Doddabetta	991	...	...	...	991	...	.....	
		Snowdon	1,053	...	...	...	1,053	...	.....	
		Jakuntha	373	. .	...	...	373	...	.....	
		Muthanád	420	...	...	...	420	...	.....	
		Governor's Shola ...	2,671	...	...	...	2,671	.	.....	
		Pykara	1,309	...	...	...	1,309	...	.....	
		Sandynullah ...	818	...	...	...	818	...	.. ...	
		Kengodu	451	...	...	...	451	...	.....	
		Karpakan	391	...	...	...	391	..	.....	
	Naduvatam..	Naduvatam Sholas...	1,501	.	...	...	1,501	...	.....	
		Vellingiri	643	.	...	...	643	..	.....	
		Kadcoopa	1,622	.	...	...	1,622	...	.....	
		Mukurti	8,953	..	...	...	8,953	..	.. ...	
		Northernhay ...	3,998	...	...	...	3,998	..	.....	
		Naduvatam ...	3,411	...	...	...	3,411	...	.....	
		Gadsbrook ..	230	..	...	...	230	...	.....	
		Cherambadi ..	1,983	.	...	...	1,983	...	... ..	
		Ammankaval ...	563	.	...	...	563	...	.....	
	Melér ..	Kundahs	40,521	.	...	...	40,521	...	.....	
		Mikkeru	1,267	...	...	...	1,267	...	.....	
		Thia Shola . .	1,551	...	...	...	1,551	...	.....	
		Hiriyashige	2,175	...	...	...	2,175	...	.....	
		Devamalai	...	..	229	..	229	...	No. 213 of 27th May 1890.	
		Ithalar	460	...	...	...	460	...	.. ..	
		Deva Shola	215	...	...	...	215	...	....	
		Balakola	935	...	...	...	935	..	.....	
		Athigarahatti ..	34	...	...	...	34	...	.....	
		Sutton Shola ...	52	...	...	...	52	...	.....	
		Commandu	993	...	...	...	993	.	.....	
		Pembroke	122	...	...	...	122	...	.....	
		Nedukaduhalla ...	...	...	885	...	885	...	No. 539 of 5th Dec. 1890.	
	Coonoor.	Hulikal	6,411	...	...	...	6,411	...	.....	
		Honnathalai ...	320	...	...	...	320	...	.....	
		Rallia	189	...	...	...	189	...	.....	
		Black Bridge ...	390	...	...	...	390	...	.....	
		Coonoor Peak ...	540	...	...	...	540	...	.....	

* Last year it was 13¼.

Area of Reserved Forests, 1890-91—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1890. Acres.	Area on 1st April 1890. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres	Area on 31st March 1891. Acres.	Area on 31st March 1891. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Nílgiris —*cont.*	Coonoor	Lamb's Rock	708	.	...		708		.. ..	
		Tigor Hill ..	328		..		328		..	
		Ghát Reserve	311		..		311		...	
		Hill Grove . ..	187		...		187		... .	
		Kullar ..	1,815	.	...		1,815	..	.. ..	
	Kótagiri .	Kótagiri	563				563	...	.....	
	Sígúr	Kalhatti Slopes	8,983		..		8,983	...	.. ..	
		Ebanad ...	571	...	...		571	.	....	
	Mudumalai.	Bonné ...	11,068		.		11,068	..	..	
		Moyar	13,580				13,580		.....	
		Total ...	127,642	199½	1,114		128,756	201½		
		Grand Total	528,313	825	655,165	6,440	1,177,038	1,839		

Abstract.

District	Area on 1st April 1890.	Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1891.
	SQ. MILES.	SQ. MILES.	SQ MILES.	SQ. MILES.
Ganjam	18	67		85
Vizagapatam	14		§10	4
Godávari	*103	242	...	345
Kistna ..	69	277		346
Nelloro	†53½	115	..	168½
Cuddapah	351	5	...	356
Kurnool		242	..	242
Bellary	3	74	...	77
Anantapur	‡14	.	..	14
Nílgiris	199½	2	...	201½
Total	825	1,024	10	1,839

* Last year it was 103½. † Last year it was 54½. ‡ Last year it was 13½. § Revised estimate of area.

ANNUAL FORM No. 59-B.

Forest Department, Madras, Northern Circle.

AREA of Forests Reserved under previous orders, 1890-91.

District.	Range.	Name of Forest.	AREA ON 1ST APRIL 1890.		ADDED DURING THE YEAR.	EXCLUDED OR TRANSFERRED TO OTHER HEADS.	AREA ON 31ST MARCH 1891.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres	Acres.	Equivalent in square miles.		
Cuddapah.	Rayachóti..	Mudampad	3,200	...	..	...	3,200		.....	
	Proddatur.	Rameswaram ...	91				91			
		Thullamapuram ..	153				153			
		Vellala	258				258			
		Alladapalle	197				197			
		Paydala	99				99		..	
		Kottapalli ...	120				120			
		Modumidapalle	86				86			
		Anantapuram	138				138			
		Kallur	160				160			
	Kadiri	Malakavemla ..	3,580			...	3,580		.	
		Total ...	8,082	12½	..	...	8,082	12½		

ANNUAL FORM No. 59-C.

Forest Department, Madras, Northern Circle.

AREA of Reserved Lands, 1890-91.

District.	Range.	Name of Forest.	AREA ON 1ST APRIL 1890. Acres.	AREA ON 1ST APRIL 1890. Equivalent in square miles.	ADDED DURING THE YEAR. Acres.	EXCLUDED OR TRANSFERRED TO OTHER HEADS. Acres.	AREA ON 31ST MARCH 1891. Acres.	AREA ON 31ST MARCH 1891. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Ganjam.	Bodoborosinghi.	Kaliamba .. S	5,200	...	...	...	5,200	...		
		Telcki ... S	15,200	...	...	...	15,200	...		
		Baibali	21,920	...	...	...	21,920	...		
		Vinjagheri S	6,000	...	...	* 6,000	...	...		
		Rogoda ... S	16,000	...	...	...	16,000	..		
	Chokapad ...	Darpangia ...	16,160	...	...	...	16,160	..		
		Rambha	9,300	...	...	...	9,300	...		
		Gullery	23,860	...	...	...	23,860	...		
		Koolada ... S	2,760	...	...	...	2,760	...		
	Gayagonda ...	Ambazara S	32,000	...	...	...	32,000	...		
		Chodiapalli S	960	...	...	...	960	..		
		Chondorgiri S	18,320	...	...	...	18,320	...		
		Gundribadi S	12,200	...	...	...	12,200	...		
		Gogodo ... S	15,240	...	...	...	15,240	...	Notfn. No. 199 of 13th Oct. 1884.	
	Jagannathprasad.	Paichalia ... S	13,760	...	...	...	13,760	..		
		Brahmanosai S	8,080	...	...	...	8,080	...		
		Jagannathprasad S	26,200	...	...	* 26,200	...	...		
	Bugudu ...	Panchabuthi S	4,320	...	...	* 4,320	...	...		
		Kurcholi	5,520	...	...	...	5,520	...		
		Kriyamba	23,320	...	...	...	23,320	...		
		Sandusalya S	2,000	...	...	...	2,000	..		
		Bodochendana S	800	...	...	...	800	..		
		Vishnuchakram S	4,860	...	...	* 4,860	...	...		
	Pondokol ...	Dhougam ... S	2,400	...	...	...	2,400	..		
		Pipalapanka S	7,700	...	...	...	7,700	...		
		Moondapitta S	6,880	...	...	...	6,880	..		
		Hukuma	4,160	...	...	...	4,160	...		
		Rayigoda	6,700	...	...	...	6,700	...		
		Dabuki ... S	1,450	...	...	* 1,450	...	...		
	Berhampore...	Ramagodo ...	6,620	...	...	...	6,620	...	Notfn. No. 311 of 2nd Nov. 1885.	
		Bainamari ...	3,750	...	...	...	3,750	...		
		South Mohiri ...	3,730	...	...	...	3,730	...		
		Bollibogoda ...	261	...	...	...	261	..	Fuel and Fodder Reserves. Bd.'s Procs. No. F. 285 of 20th May 1887.	
		Balakristnapuram.	164	...	...	...	164	...		
		Chatrapur ...	695	...	...	...	695	...		
		Dura	279	...	...	...	279			
		Golabondo ...	379	...	...	...	379	...		
		Podhora	760	...	...	...	760	..		
		Mushidipolem ..	238	...	...	...	238	...		
		Kusimi	625	...	...	...	625	...		
		Bendaliya	163	...	...	...	163	..		
		Mohoda	419	..	...	...	419	..		
		Mushiyakalli ..	522	.	...	...	522	...		
		Ankusapuram ..	138	..	...	...	138	...		
		Mohughora ...	1,697	...	...	...	1,697	...		
		Maharlapalli ...	924	...	...	..	924	...		
		Virakrishnachandrapuram.	445	...	...	..	445	...		
		Godohill	225	...	...	...	225	...		
		Joronohill ...	1,002	...	...	...	1,002	...		
		West Batukamarada.	179	...	...	...	179	...		
		Nimmapuram ...	697	..	...	...	697	...		
		Sikharapuram ...	260	...	...	..	260	...		
		Shapuram	142	...	...	...	142	...		
	Chicacole ...	Tulugo	...	...	148	...	148	...	Notfn. No. 304 of 12th July 1890.	
		Ampolu	...	...	225	...	225	...		
		Singupuram ...	...	...	693	...	693	...		
		Rana	...	...	107	...	107	...		
		Rahimanpuram ...	...	...	274	...	274	...		
		Koderu	...	...	279	...	279	...		
		Total ...	337,584	† 527½	1,726	42,830	296,480	463		

'S' denotes that the settlement is completed.

Transferred to Form 59-A.

† Last year it was 527.

Area of Reserved Lands, 1890-91—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1890. Acres.	Area on 1st April 1890. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1891. Acres.	Area on 31st March 1891. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Vizagapatam.	Golgonda ...	Arlova	1,500	..	...	..	1,500		Notfn. No. 316 of 22nd Oct. 1880.	
		Pedimkonda	1,000	...		...	1,000	.		
		Kakurlakonda ...	1,500	...		...	1,500			
		Yenkatapuram ..	1,500	..	...	..	1,500	..		
		Kodavalipudi ..	1,000	...	.	...	1,000	...		
		Total ..	6,500	* 10	..	.	6,500	10		
Godávari.	Peddápur ...	Ragoovaputnam S	12,160	...	...	...	12,160	...	Notfn. No. 448 of 23rd Nov. 1886.	
		Sullanka ... S	17,920	..	..	...	17,920	.		
		Anantavaram S	8,320	...	...	...	8,320	..		
		Totapalle ... S	3,520	...	..	...	3,520			
		Oligogola ... S	20,800	...	..	...	20,800	..		
		Ramasaram ...	2,500	...	...	...	2,500	..	Notfn. No. 213 of 23rd May 1887.	
		Murari ... S	700	...	..	† 700	...	...	...	
		Kovida ... S	2,100	..	...	..	2,100	...	Notfn. No. 134 of 9th May 1888.	
		Banadapalli ...	6,800	..	...	...	6,800	...	Notfn. No. 281 of 1st Oct. 1889.	
		Lododdi	8,400	...	..	..	8,400	...		
		Vatangi ...	11,000	...	...	...	11,000	...		
		Aminbada ...	5,600	.	.	...	5,600	..		
		Anantagiri ...	3,900	...	..	..	3,900	.		
		Laburti	8,100	...	...	..	8,100	...		
		Doramamidi	7,200	...		...	7,200	...		
		Verabhadram ..	11,200	...	...	..	11,200	.		
		Jeddangi .	6,700	...	...	.	6,700	...		
		Annavaram ...	10,500	..	...	...	10,500	...		
		Peddagurangi	5,800	...	.	...	5,800	..		
		Lingamparti ...	7,600	...	..	...	7,600	..		
		Devancheruvu S	5,000	...		...	5,000	...	Notfn. No. 308 of 28th July 1886.	
	Rajahmundry.	Lakkonda ...	13,000	...	...	...	13,000	...	Notfn. No. 282 of 1st Oct. 1889.	
		Mollera	10,000	...	...	...	10,000	...		
		Sudikonda ..	5,300	..	...	...	5,300	..		
		Mallavaram ...	6,500	...	...	...	6,500	...		
		Tirumaliapalem ...	9,200	...	...	...	9,200	...		
		Mulkanapalli S	3,658	...	...	† 3,658	...	...	...	
		Dumagudiem S	6,110	...	...	† 6,110	...	...	...	
		Arlaguram S	6,136	...	...	† 6,136	...	...	...	
		Tunikicheruvu S	8,022	...	...	† 8,022	...	...	...	
		Bhadráchalam S	10,860	..	..	† 10,860	...	...	...	Last year the area of Badrachalam was wrongly entered against Tunikicheruvu, and *vice versâ*.
		Gogubaka ... S	1,666	...	...	† 1,666	...	...	...	
		Komanpalli S	3,250	..	...	† 3,250	...	...	...	
		Bandreo ... S	10,900	...	...	† 10,900	...	...	...	
		Golaguppa S	8,000	...	...	† 8,000	...	...	...	
		Narakonda S	7,500	...	...	† 7,500	..	...	..	
		Pengha .. S	4,400	...		† 4,400	...	...	.	
		Upanapalli S	3,300	..	..	† 3,300	.	...	.	
		Tatlunka ... S	12,000	..	...	† 12,000	...	.	...	
	Bhadráchalam.	Ramchandram S	10,300	...	...	† 10,300	...	...	...	
		Rapak ... S	7,000	...		† 7,000	...	...	...	
		Sitarampuram S	3,000	...	...	† 3,000	...	...	...	
		Bhandargudem S	7,100	...	...	† 7,100	...	...	...	
		Burkankota S	1,500	..	..	† 1,500	...	...	...	
		Kaler ... S	6,500	..	...	† 6,500	.	..	...	
		Nialakota ... S	2,500	...	...	† 2,500	...	...	...	
		Lakewaram S	6,500	...	...	† 6,500	...	...	...	
		Kanslur ... S	6,200	...	...	...	6,200	...	Notfn. No. 18 of 19th Dec. 1885.	
		Walsugri ... S	8,700	...	...	...	8,700	...	...	
		Rekapalle hills S	107,700	...	...	...	107,700	...	...	
		Velagalapalle Blocks I & II S	2,200	...	‡ 900	† 2,200	...	...	...	
		Chintalapudi S	1,100	...	...	† 2,000	...	...	...	
		Barrikonda S	3,500	...	...	† 3,500	...	...	...	
		Erraguntapalle S	8,640	...	...	† 8,640	...	...	...	
	Ellore ...	Bandamcherla S	5,200	...	...	† 5,200	...	..	...	
		Tadikalapudi S	2,500	...	...	† 2,500	...	...	...	
		Ramasingavaram S	1,920	...	...	...	1,920	...	Notfn. No. 210 of 23rd May 1887.	
		Ungutur Blocks I & II ...	4,500	...	...	...	4,500	...	Notfn. No. 145 of 21st May 1889.	

* Last year it was 10½. † Transferred to Form 59-A. ‡ Revised estimate of area.

Area of Reserved Lands, 1890-91—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1890		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1891.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Godávari—*cont.*	Delta	Upputer .	10,000	.		.	10,000		Notfn. No. 291 of 29th July 1887.	
		Kandikuppa	9,000	...			9,000		Notfn. No. 288 of 11th Oct. 1889.	
	Yernagúdem ..	Jilugumilli ..	3,300	.	...		3,300			
		Darbhagudem	2,200	..	...		2,200	..		
		Barrinkalapadu .	1,600		...		1,600			
		Thaduvai ...	1,900		.		1,900			
		Malagudem .	2,700	.			2,700	.		
		Boddadavole ..	15,000		..		15,000		Notfn No. 285 of 1st Oct. 1889	
		Rajahmundram	400				400			
		Nallacherla	11,000		.		11,000			
		Kopilli	19,000	.	.		19,000			
		Kovada	19,000	...			19,000			
		Papikonda	..		21,000		21,000		Notfn. No. 395 of 20th Aug. 1890.	
		Total	587,282	*917¼	21,900	154,942	454,240	709¼		
Kistna.	Bezváda	Kondapalle † S	33,997	.	..	.	33,997		Notfn. No. 143 of 30th July 1884.	
		Kothur † S	7,593		700		8,293		Notfn. No. 181 of 22nd April 1890	
		Budavada S	4,650		.	‡ 4,650				
		Jaggayapeta S	4,650			‡ 4,570, § 80				
		Kondúr S	3,000	..			3,000		Notfn. No 351 of 11th Oct 1887	
	Guntúr	Kondavíd S	13,156			‡ 12,857, § 299				
		Tadepalle S	2,300		5	‡ 2,305				
		Kuragallu S	1,290		15	‡ 1,305				
		Narakodúr S	515			‡ 515				
		Kolakalúr	1,403				1,403		Notfn. No. 32 of 11th Jan. 1890	
		Lam			987		987		Notfn. No. 359 of 7th Aug. 1890.	
		Gollamoodi ..			202	.	202		Notfn. No 366 of 7th Aug. 1890.	
	Krosúr ..	Venkatayyapalem. † S	49,201			‡ 46,201	3,000			
		Nevalipur S	11,870		.	.	11,870		Notfn. No. 148 of 30th July 1884.	
	Vinukonda	Bollapalli Nos. I & II †S	49,712	..	2,288	‡ 40,000	12,000		..	
		Koppukonda		.	5,000	.	5,000	.	Notfn. No. 289 of 30th June 1890.	
		Guttikonda S	42,241			§ 4,481	37,760			
		Kakirala S	28,564		.	‡ 17,520, § 11,344				
	Palnád	Madinapadu S	9,600		...	‡ 9,600				
		Pasvemula S	22,782			...	22,782		Notfn. No. 148 of 30th July 1884.	
		Kandlagunta S	34,947				34,947			
		Tengeda II			1,395		1,395		Notfn. No. 226 of 3rd June 1890.	
		Tummurukodu II			2,940		2,940	...	Notfn. No. 212 of 27th May 1890.	
		Do. III			3,730		3,730	..		
		Mutukur . S	31,408		..	§ 48	31,360	.	Notfn. No. 143 of 30th July 1884.	
	Bápatla	Muthayyapalem S	9,569			‡ 9,569		..		
		Pandhillapalli S	162			‡ 162				
		Wardarevu S	82	.		‡ 82	.			
		Nayanapalli S	156		.	§ 4	152	.		
		Vedhullapalle extension			10		10		Notfn. No. 232 of 4th June 1890.	
		Kottapalem, No. II. S	3,100		..	‡ 3,100	...	.		
		Orr's tope... ...	...		131	..	131	...	Notfn. No. 8 of 8th Jan. 1891.	
	Bandar ...	Yellichettidibba S	4,640		...	‡ 4,640				
		Nachugunta S	8,640		..	‡ 8,640	..	...	...	
		Sorlagundi S	2,880	.		‡ 2,880	...	...		
		Gollapalem S	390	...		‡ 390	...	...	...	
		Kodúr ... S	38	...	12	‡ 50	...	...	...	

* Last year it was 917. † Part only settled. ‡ Transferred to Form 59-A. § Revised estimate of area.

Area of Reserved Lands, 1890-91—*cont.*

District.	Range.	Name of Forest		Area on 1st April 1890		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1891.		Number and date of notification of addition or transfer.	Remarks.
				Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Kistna—*cont.*	Bandar—*cont.*	Palakayatippa	S	2,880	.	.		2,880		Notfn. No. 91 of 8th Feb. 1887.	
		Bandar Fort	S	7,500		..	* 7,500	.		..	
		Kankollu	S	667			* 667			...	
		Weld Reserve I, II			..	75		75		Notfn. No. 373 of 9th Aug. 1890.	
		Gopuvanipalem				206		206		Notfn. No. 490 of 6th Nov. 1890.	
		Total ..		393,883	† 615¼	17,696	193,459	218,120	341		
Nellore.	Ongole ...	Chimakurthi ...		7,500	...	...	...	7,500	...	Notfn. No. 185 of 13th Oct. 1883.	
		Ongole ...	S	200	...	...	* 60 ‡ 140	...	...	...	
	Kandukúr ...	Buddepudi	S	500	.	...	* 500	...	...	...	
		Chakicherla	S	323	..	...	* 323	...	...	...	
		Ramapatam	S	1,516	..	...	* 1,516	...	...	...	
		Mocherla, Chalamcherla.	S	12,290	...	...	‡ 54	12,236	...	Notfn. No. 96 of 15th Feb. 1887.	
		Gudlúr ...	S	3,432	...	...	* 3,297 ‡ 135	...	...	...	
		Kávali		2,933	...	...	...	2,933	..	Board's Procs., No. 3216 of F. 647 24th Nov. 1885.	
		Kávali ...	S	2,000	..	...	* 2,000	...	...	...	
	Kávali ...	Narayanapuram	S	2,392	...	...	* 2,392	...	...	...	
		Kesavaram	S	908	...	..	* 908	...	...	...	
		Chira Annalúr	S	3,400	...	...	* 3,400	...	...	...	
		Tummalapenta N. & W. §	S	3,560	...	‡ 20	* 2,280	1,300	...	Notfn. No. 97 of 15th Feb. 1887.	
		Bitragunta	S	1,908	...	...	* 1,908	...	...	...	
		Nagalavaram	S	414	...	...	* 414	...	...	...	
		Zakkepalle-Gudúr	S	800	...	...	* 800	...	..	...	
		Chamadala	S	750	...	...	* 750	...	...	...	
		Dundigam	S	515	...	...	* 515	...	...	...	
		Mungamore ...		94	...	...	...	94	...	Board's Procs., No. 371 of 1st July 1887.	
		Kadanutla ...		289	...	...	...	289	...		
		Talapalem ...		761	...	...	...	761	...		
		Kávali		1,511	.	...	...	1,511	...		
		Kolladinne ..		561	...	...	...	561	...		
		Musunúr		1,014	...	...	...	1,014	...		
		Anamadugu		941	...	...	...	941	...		
		Chennayyapolliem.		1,161	...	...	...	1,161	...		
		Tummalapenta ...		2,476	...	...	...	2,476	...		
		Rudrakota ..		343	..	...	...	343	...		
	Kanigiri ...	Kanigiri-Durgam	S	1,500	..	...	..	1,500	...	Notfn. No. 205 of 23rd Nov. 1883.	
		Nandavanam	S	18,000	...	...	...	18,000	...	Notfn. No. 190 of 6th July 1885.	
		Vedullacheruvu ...		9,000	...	..	...	9,000	...		
	Udayagiri ...	Udayagiri-Durgam	S	13,440	...	.	..	13,440	...	Notfn. No. 185 of 13th Oct. 1883.	
		Yerrakondas ...		14,080	...	...	...	14,080	..	Notfn. No. 238 of 22nd Oct. 1885.	
		Udayagiri(East) Appasamudram.	S	1,000	..	‡ 500	...	1,500	...	Notfn. No. 243 of 1st July 1887.	
	Atmakúr and Udayagiri.	Udayagiri Veligondas.		60,140	...	...	...	60,140	...	Notfn. No. 164 of 16th June 1885.	
		Bommavaram	S	3,000	...	...	* 3,000	...	...	...	
	Atmakúr ...	Turpukambhampadu.	S	861	...	...	* 861	...	...	...	
	Atmakúr and Nellore.	Prabhagiripatnam	S	2,500	...	..	* 2,500	...	...	...	

* Transferred to Form 59-A. † Last year it was 616. ‡ Revised estimate of area. § Part only settled.

Area of Reserved Lands, 1890-91—*cont.*

District.	Range	Name of Forest	Area on 1st April 1890		Added during the year	Excluded or transferred to other heads	Area on 31st March 1891		Number and date of notification of addition or transfer	Remarks.
			Acres	Equivalent in square miles	Acres	Acres	Acres	Equivalent in square miles		
Nellore—*cont*	Nellore—*cont*	Marripad S	1,400			*1,400				
		Turimerla S	620			*620				
		Dagadarti S	2,866			*2,866				
		Kottapalli S	4,230			*4,230				
		Vavveru S	2,970			*2,970				
		Amancherla E. & W S	1,440		...	*1,440				
		Nellore S	2,560				2,560		Notfn No. 99 of 15th Feb 1887	
		Kondlapudi S	1,440		†60		1,500			
		Allipuram S	120	..	†5	*125				
		Striharikota and its outliers	35,710	..			35,710		Notfn No. 185 of 13th Oct 1883.	
		Kottapatam Plantation S	385				385		Notfn No 205 of 23rd Nov 1883.	
		Yellasari S	2,080				2,080		Notfn No. 98 of 15th Feb. 1887.	
	Gúdúr	Ipuru S	1,033		...	*1,033				
		Tammimapatnam, W S	800			†450	350			
		Momidi S	2,040		†460		2,500		Notfn. No 98 of 15th Feb 1887	
		Ankulapatu S	240			*240				
		Pidatalapudi S	750			*750				
		Kadivéd N & S S	918			*918				
		Nellaballi S	275			*275				
		Vedicherla S	700		†150		850		Notfn No. 98 of 15th Feb 1887	
		Madamanúri S	560			*560				
		Sarvepalli S	2,750			*2,750				
		Kanupur S	1,974			*1,974				
		Kottapatam	2,500				2,500		Notfn No 98 of 15th Feb 1887	
	Rápur	Turpupundla S	1,000			*1,000				
		Sydapuram S	2,080				2,080		Notfn No 100 of 15th Feb 1887	
		Chaganam S	1,500			*1,500				
		Utukur S	725		..	*725				
		Tummalatalpur S	4,000			*4,000				
		Marlapudi	4,480		†70		4,550		Notfn No 100 of 15th Feb. 1887.	
		Pategunta S	1,600				1,600			
		Paluru ... S	400			†190	210			
		Chikavolu S	1,100			*1,100			...	
		Cherlopalli S	3,360		..	.	3,360		Notfn No 100 of 15th Feb. 1887	
		Potukonda S	2,240			†380	1,860			
		Guttikonda S	160		†20		180			
		Marellakonda S	520			†120	400			
		Veminabhi S	2,080			.	2,080	.		
		Nellapalli S	2 100		...	*2,100		..		
		Kakerlakonda S	3,680		..	†1,830	1,850		..	
		Yerragondas S	19,000	..			19,000	..		
		Vavintapartı S	1,300			*1,300				
		Kummaragunta S	480	..		†40	440		Notfn No 100 of 15th Feb. 1887.	
		Pulikollu S	740			*740				
		Mogallur S	957			*957				
		Duggunta S	1,200		..	*1,200	..			
		Podalakur S	1,920		†580		2,500		Notfn No 100 of 15th Feb 1887	
		Birdavolu S	2,400		.	*2,250 †150		...		
		Vadlapudi S	2,400		.	*2,400	.	..	..	
		Marupur S	3,130	..		*3,130			.	
		Toderu .. S	750	.		*750			.	
		Nernúr S	2,400	..	.		2,400		Notfn No. 100 of 15th Feb. 1887	
		Chittaluru S	515		...	*515		.		
		Ayyagarıpalem S	320	...	.	*320		.		
		Griddalúr S	500		†200		700	...	Notfn No. 506 of 5th July 1887.	
	Rápúr and Atmakúr	Rápúr, Veligondas, S	30,720				30,720	.	Notfn No 164 of 10th June 1885	
		Total	348,131	‡ 544	2,065	77,051	273,145	427		

* Transferred to Form 59-A. † Revised Estimate of area ‡ Last year it was 543½.

Area of Reserved Lands, 1890-91—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1890. Acres.	Area on 1st April 1890. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1891. Acres.	Area on 31st March 1891. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Cuddapah.	Kódúr ...	Settikunta ...	960	.	...	...	960		Collr.'s notice of 7th March 1885.	Left reserved land after settlement.
		Cheyavaram S	4,480	.	..	...	4,480		Notfn. No. 304 of 24th July 1886.	
		Kódúr	2,160	...	...	...	2,160		Collr.'s notice of 7th March 1885.	Do.
		Gotimanikona S	3,840	..	...	...	3,840	...	Notfn. No. 304 of 24th July 1886.	
		Yerraguntlakota ..	1,920	...	...	...	1,920	...	Collr.'s notice of 7th March 1885.	
		Avalapenta S	960	...	...	...	960	...	Notfn. No. 304 of 24th July 1886.	
		Mushtiyeru S	4,480	.	...	...	4,480	...		
		Tippayapalli S	960	.	...	.	960			
		Kodivengamabavi .	2,400	...	...	...	2,400	..		
		Marriutla S	6,400	...	...	...	6,400	..		
		Reddipalle Plantation.	516	..	..	...	516		...	Do.
	Kódúr and Rájampet.	Seshachellam and Rollamadugu.	3,840				3,840	.	Collr.'s notice of 6th March 1884.	Do.
		Salivendru	6,400	..			6,400		. .	Do.
	Rájampet	Chitvel ... S	10,240	.	...	...	10,240	.	Collr.'s notice of 6th March 1884.	
		Ananthasamudram .	6,400	...	...		6,400	..	Collr.'s notice of 7th March 1885.	
		Sampaya ghat .	2,560	...	...	...	2,560	..		
		Badugantapalle S	3,520		..	..	3,520	...	Notfn. No. 304 of 24th July 1886.	
		Vattalúr Hill ...	320	...	...	...	320	...	.	Do.
	Rájampet and Rayachóti.	Gadikota . ..	3,538		...	...	3,538	..	Collr.'s notice of 6th March 1884.	Do.
		Yerrakonda S	8,320		..	..	8,320		Notfn. No. 304 of 24th July 1886.	
		Sibbyala ...	340	...	...	...	340	..	.	Do.
		Tsundupalle .	1,480		...	...	1,480	.	.	
	Sidhout, Rájampet and Rayachóti.	Cheyer ... S	11,360		...	..	11,360	...	Notfn. No. 304 of 24th July 1886.	
	Rájampet and Sidhout.	Kanakalakonda S	6,400		..	...	6,400	..	Notfn. No. 54 of 14th March 1884.	
		Patur . S	7,680		...	...	7,680	..		
		Kokaletikanama S	14,420	...	...	...	14,420	...	Notfn. No. 304 of 24th July 1886.	
		Kothur ... S	22,720	...	..		22,720	...		
	Sidhout ..	Malliamkonda ...	3,840	...	...	...	3,840	...	Collr.'s notice of 6th Dec. 1884.	Do.
		Do. addition. S	1,280	...	...	...	1,280	...	Notfn. No. 306 of 24th July 1886.	
		Vontimitta .	5,760	...	..	...	5,760	..	Notfn. No. 54 of 14th March 1884.	
		Konarazupalle S	9,600	.	...	...	9,600	.		
		Turupukonda S	30,080	.	...	...	30,080	...	Notfn. No. 306 of 24th July 1886.	
		Ippakanama ...	1,600	...	...	..	1,600	...	Collr.'s notice of 7th March 1885.	
	Badvél and Sidhout.	Ramapuram S	7,680	...	...	...	7,680	...	Notfn. No. 54 of 14th March 1884.	
		Kavalakuntla ..	1,600	.	.	...	1,600	.	...	Do.
	Badvél ...	Gopavaram S	13,440		..	...	13,440	...	Notfn. No. 54 of 14th Mar. 1884.	
		Kottakota ... S	38,400		..	...	38,400	...		
		Kalasapad S	6,400		...	...	6,400	...	Notfn. No. 306 of 24th July 1886.	
		Sancherla S	5,760	...	...	...	5,760	...		
		Tsallagirigulla	1,280	.	...	...	1,280	...	Collr.'s notice of 17th March 1885.	
		Badvél	1,920	...	...	...	1,920	...		
		Ganugapenta ...	3,200	...	...	...	3,200	...	...	Do.

Area of Reserved Lands, 1890-91—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1890		Added during the year	Excluded or transferred to other heads.	Area on 31st March 1891.		Number and date of notification of addition or transfer.	Remarks.
			Acres	Equivalent in square miles.	Acres.	Acres	Acres.	Equivalent in square miles.		
Cuddapah—*cont.*	Cuddapah, Badvél and Sidhout.	Lankamalai S	112,640		...	..	112,640		Notfn. No. 54 of 14th Mar. 1884	
	Cuddapah and Sidhout.	Kanamalapalle .	5,255	...		...	5,255	.		Left reserved land after settlement.
	Badvél and Proddutur.	Dasaripalle S	66,560	...	...		66,560		Notfn. No 54 of 14th Mar. 1884.	
	Cuddapah ...	Kancholamoram S	8,960		...	...	8,960			
		Ganganapalle S	57,600	...		...	57,600	..	Collr.'s notice of 3rd Mar. 1885	
		Cholakampalle	6,400	.	...		6,400			
		Kommaddi S	1,600		...		1,600	..		
		Tummalur S	3,200	.		...	3,200			
		Gonamakalapalle S	1,280	...	...		1,280	.		
	Proddutur and Pulivendla	Bhanakotamala S	13,600		...	.	13,600			
		Mallela S	5,120	.	...		5,120			
	Proddutur ..	Kondasankosula S	4,480	...	.	...	4,480	...		
		Dabbudapalle S	3,280		. .	..	3,280			
		Dhodiyam S	2,720				2,720		Notfn No. 304 of 24th July 1886	
		Malamidikamba-ladinne. S	3,440			..	3,440			
		Penner S	640	..		..	640			
		Gandikota S	9,920	.			9,920			
		Yamavaram S	1,600			.	1,600	.		
		Kosinepalle S	7,040		...	...	7,040			
		Nidijuvvi S	2,880		...		2,880			
		Kondapuram S	3,840	...			3,840			
	Cuddapah and Ráyachóti	Idupalapaya S	28,160	..			28,160		Notfn. of 11th June 1883	
		Redlacheruvu S	5,120		...		5,120		Notfn. No. 304 of 24th July 1886	
	Cuddapah and Sidhout.	Palkonda S	81,920				81,920		Notfn of 11th June 1883	
	Ráyachóti	Madhavaram S	5,900	..			5,900		Notfn No. 54 of 14th Mar 1884.	
		Vandadi Hills S	3,400			* 3,390 † 10				
		Brahmanayerragudi	5,760		.		5,760		Collr.'s notice of 7th Mar. 1885	
		Hassanapuram	12,160		..		12,160			
		Mudumpad slopes	5,760		...	.	5,760	...		
		Wongimalla S	10,880	...	.	...	10,880		Notfn. No. 306 of 24th July 1886	
	Ráyachóti and Váyalpád	Urukonda	8,960	.			8,960			
		Rekkalakonda	6,400	.	. .	..	6,400	..		
	Kadiri and Pulivendla	Gorivikanama S	28,800	...		...	28,800			
		Dorigallu S	30,720			..	30,720			
		Ishwaramala S	15,360		...		15,360		Notfn No. 54 of 14th Mar. 1884	
		Kokanti S	2,000		...		2,000	.		
		Kadiri S	10,240		...		10,240			
		Vellicholamalla S	3,200				3,200		Notfn. No. 305 of 24th July 1886.	
		Thirumaladevara-konda. S	9,600			.	9,600	..	Notfn. No. 54 of 14th Mar. 1884.	
		Nigadi S	19,640		..		19,640	...	Notfn. No. 305 of 24th July 1886.	
	Kadiri .	Kukkarazukonda S	5,120		...	..	5,120			
		Tumala S	25,600	.	...	...	25,600	...		
		Malakavemala S	1,920			...	1,920	..	Notfn. No. 54 of 14th Mar. 1884.	
		Tummalamala S	6,400	.	. .	...	6,400			
		Kondagamorla S	3,200		.		3,200	...		
		Somarazumala, East S	1,280	.	...		1,280	..		
		Goduvelagala S	1,920	...	...	...	1,920		Notfn No. 305 of 24th July 1886.	
		Mudupalajuvi S	1,440			...	1,440	..		
	Madanapalle .	Tavalam S	5,120	...	...	...	5,120			
		Madhanikonda S	1,750	..	...	...	1,750			
		Pontzapad S	2,870	...	...	...	2,870		Notfn No. 54 of 14th Mar. 1884	
		Horsleykonda S	23,870	...	.	...	23,870	.		
		Mothugamala S	2,560	...	...	...	2,560	...		

* Transferred to Form 59-A. † Revised estimate of area.

Area of Reserved Lands, 1890-91—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1890. Acres.	Area on 1st April 1890. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1891. Acres.	Area on 31st March 1891. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Cuddapah—*cont.*		Mallaiakonda S	15,023				15,023	...	Notfn. No. 54 of 14th March 1884.	
	Madanapalle	Nallakonda S	3,200	.		...	3,200	..		
		Pulikonda ... S	2,560		..	...	2,560	...	Notfn. No. 305 of 24th July 1886.	
		Potapolu .. S	364	...	...	...	364	..		
		Kukarazupalle S	1,660	..	..		1,660			
	Váyalpád and Madanapalle.	Tarikonda ...	6,400		...	...	6,400	...		
		Gutapalicm S	2,560		...	...	2,560			
	Váyalpád ..	Yellutla ...	4,840		...		4,840	.	Notfn. No. 54 of 14th March 1884.	Left reserved land after settlement.
		Gajjbuchikona S	320	.	.	...	320	...		
		Yerramorallajodu S	3,680		...	.	3,680	.		
		Ankalammakonda S	2,800	...	...	...	2,800	.		
		Nurukupalakonda S	8,820		...	..	8,820			
		Doddipalle S	2,560		...	...	2,560			
		Sorakayalapeta ...	2,560	..	..	..	2,560	.	Notfn. No. 306 of 24th July 1886.	
		Peddamallela S	3,200		..	...	3,200	.		
		Marella ... S	7,680	...	..	..	7,680			
		Talakona . S	19,840	..	..	...	19,840			
		Bhakarapet ...	9,800	.	..	...	9,800	.		
		Total ...	1,067,406	1,668	.	3,400	1,064,006	1,663		
Kurnool	Sirvél and Nandyál.	Sirvél .. S	128,000	...	...	*116,730 †11,270	...	.	...	
	Nandyál and Naudikótkur.	Nandyál S	192,000	...	...	†6,300	185,700	.	Notfn. of 21st April 1883.	
	Nandikótkur ..	Nandikótkur S	256,000	..	†112,770	.	368,770	.		
	Cumbum ...	Uyyalavada S	448,000	...	† 7,055	.	56,180		Notfn. No. 198 of 17th Nov. 1883.	
	Cumbum and Márkápur.	Cumbum S					217,000			
	Márkápur	Márkápur . S					181,875			
	Cumbum ...	Northern Veligondas S	19,200	...	† 2,340	*21,540				
		Southern do. S	19,200		...	*16,755 †2,445	...			
		Western do. ...	10,880		† 6,330		17,210		Notfn. No. 199 of 17th Nov. 1883.	
	Ramallakota ..	Ramallakota E.&W. S	2,000	...	...	..	2,000	..	Notfn. No. 74 of 6th March 1888.	
		Lanjabanda S	2,000	..	...	...	2,000	...		
		Yaipalapad ..	3,500	.	...		3,500	...		
		Gadithemadugu S	3,000		....	...	3,000	.		
	Pattikonda and Ramallakota.	North Dhone ..	10,000	...	..	..	10,000	.		
		South Dhone S	4,000	...	...	...	4,000	...		
		Total ..	1,097,780	†1,715	128,495	175,040	1,051,235	1,642½		
Bellary.	Ádóni ..	Ganekolu ... S	1,118	...	...	...	1,118	..	Notfn. No. 175 of 16th Sept. 1884.	
		Badenahalu S	940	...	...	...	940			
		Katalam ... S	658	...	...	...	658	.		
		Halekota ... S	* 438	.	...	* 438	..			
		Sulekeri	1,342	...	...	.	1,342	.	Do.	
		Halevy ... S	1,209	..	...	*1,209	...	..		
		Nundavaram S	969	...	...	...	969	...	Notfn. No. 175 of 16th Sept. 1884.	
		Ráyachóti ... S	1,863	...	...	...	1,863	..		
		Kurimetla ...	3,341	...	...	...	3,341	...		
		Bunivasi ... S	1,964	.	...	...	1,964	...		
		Kotekallu	2,569	...	.	...	2,569	...		
		Adóni E.&W. ...	5,000	...	† 337	..	5,337	...		
		Kupgul	4,650	...	...	...	4,650	..		
		Tungabhadra ...	4,633	...	...	...	4,633	...		
		Kosgi	2,970	...	...	...	2,970	...		
		Kudbúr	2,956	...	...	...	2,956	...		
	Alúr	Gummanur N.W.S.	248	..	...	*244 †4	...	...		
		Do. N.E. S	332	...	...	*332	...	...	..	
		Do. N. S	69	...	†1	*70	...	...	...	

* Transferred to Form 59-A. † Revised estimate of area. ‡ Last year it was 1,71½.

Area of Reserved Lands, 1890-91—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1890. Acres.	Area on 1st April 1890. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1891. Acres.	Area on 31st March 1891. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Bellary—*cont.*	Alúr—*cont.*	Chippigiri W. S	281	...	†1	* 282	...	...	...	
		Do. S. S	416	...	†1	* 417	...	...	...	
		Do. S.E. S	485	...	...	* 461 † 24	...	...	...	
		Degalahalu S	110	...	...	* 110	...	...	...	
		Yeruru S.W. S	56	...	†1	* 57	...	...	...	
		Do. S. S	311	...	...	* 308 † 3	...	...	...	
		Do. W. S	157	...	...	* 157	...	...	...	
		Bellary ... S	8,000	...	...	* 8,000	...	...	...	
		Mincheri ... S	4,000	...	...	* 4,000	...	...	...	
		Kurrugodu W. & N.W. S	1,000	...	...	...	1,000	...	Notfn. No. 163 of 10th June 1889.	
	Bellary ...	Tekkalakota S	600	...	...	* 600	...	...	...	
		Sugura	500	...	...	...	500	...	Notfn. No. 163 of 10th June 1889.	
		Nadivi ...	450	..	...	...	450	...		
		Hulekota ... S	640	...	...	...	640	...	Notfn. No. 104 of 11th Mar. 1891.	
		Vonnahalli ...	...	...	111	...	111	...		
		Mundrigi ...	...	...	80	...	80	...		
	Hospet ...	Gundu ... S	3,000	...	† 2,456	...	5,456	...	Notfn. No. 197 of 16th Nov. 1883.	
		Hospet ...	5,000	...	...	...	5,000	...		
		Joga ... S	4,000	...	...	* 3,264 † 736	...	...	...	
		Oblagudi ... S	1,000	...	...	† 308	692	...	Notfn. No. 197 of 16th Nov. 1883.	
	Kúdligi and Hospet.	Tornagallu S	2,100	...	...	* 2,100	...	...	...	
		Billekal	14,080	...	...	...	14,080	...	Notfn. No. 22 of 21st Jan. 1889.	
		Buckasagar ...	6,000	...	...	...	6,000	...		
		Bandri	7,000	..	...	...	7,000	..	Notfn. No. 197 of 16th Nov. 1883.	
	Kudligi ...	Chiribi ... S	3,000	..	..	* 3,000	...	...	...	
		Tambaragudi S	2,500	...	...	* 2,500	...	...	...	
		Somalapuram S	2,600	...	...	* 2,600	...	...	...	
		Sunkadakal S	7,843	...	...	* 7,000 † 843	...	...	...	
		Shivapuram S	9,000	..	...	* 9,000	...	...	...	
		Banivikal	3,000	...	...	...	3,000	...	Notfn. No. 79 of 26th Mar. 1889.	
		Nimbagiri ..	4,800	...	...	...	4,800	...		
		Gudekota	7,000	...	...	...	7,000	...		
		Sunkadakal East ...	...	...	843	...	843	...	Notfn. No. 538 of 8th Dec. 1890.	
	Hadgalli and Harpanhalli.	Harada ... S	18,000	..	...	† 1,600	16,400	..	Notfn. No. 79 of 14th Jan. 1883.	
		Sogay	4,200	..	...	...	4,200	...		
	Harpanhalli ...	Jitnakatta ...	12,646	...	...	...	12,646	...	Notfn. No. 116 of 20th April 1888.	
		Jangukalgutta ...	12,882	...	...	...	12,882	...		
		Alagilavada ...	1,956	...	...	...	1,956	...		
		Uchirgidrug ...	4,291	...	...	...	4,291	...		
	Ráyadrug ...	Ráyadrug ... S	6,000	...	...	...	6,000	...	Notfn. No. 180 of 21st May 1885.	
		Dharmapuri S	3,600	...	† 500	...	4,100	...		
		Aduguppa S	950	...	...	* 950	...	...	...	
		Boodikonda S	1,000	..	...	...	1,000	...	Notfn. No. 157 of 8th June 1888.	
	Sandúr ...	Sandúr	40,000	...	...	...	40,000	...	...	Leased Forest.
		Total ...	201,723	315	4,331	50,617	1,55,437	243	...	
			40,000	62½			40,000	62½	...	Leased Forest.
Anantapur.	Gooty ...	Peddadoddi ...	3,200	...	...	...	3,200	...	Notfn. No. 203 of 20th May 1887.	
		Jakkalacheruvu ...	3,200	...	...	...	3,200	...		
		Pamidi ... S	640	...	...	...	640	...		
		Nagasamudram N. & S.	9,600	...	...	...	9,600	...		
		Cutturmulla ...	7,680	...	...	...	7,680	...		
		Bhadrampalle ...	2,560	...	...	...	2,560	..		
		Marutla	11,520	...	...	...	11,520	..		
		Tarramalla ...	8,960	..	...	...	8,960	...		
		Yadaki	5,120	...	...	...	5,120	...	Notfn. No. 134 of 28th Feb. 1887.	
		Guntakal I, II. & III.	900	...	..	...	900	...	Notfn. No. 252 of 13th Aug. 1889.	
		Muchukota S	6,400	...	...	...	6,400	...	Notfn. No. 191 of 6th Oct. 1884.	

* Transferred to Form 59-A. † Revised estimate of area.

Area of Reserved Lands, 1890-91—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1890		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1891.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Anantapur—*cont.*	Muchukota	Durgam ... S	3,200	...	...	...	3,200	...	Notfn. No. 205 of 20th May 1887.	
		Kudair ... S	4,480	...	...	...	4,480	...		
		U'parapalli S	640	...	...	...	640	...		
		Dadithota ...	1,920	...	...	...	1,920	...	Notfn. No. 134 of 28th Feb. 1887.	
		Yellutla ...	5,120	...	...	...	5,120	...		
		Chillawaripalle	3,840	...	...	...	3,840	...		
		Konakuntla ...	1,280	...	...	...	1,280	...		
		Nairjampalle	1,920	...	...	...	1,920	...		
		Yelanur ...	320	...	...	...	320	...		
		Gootoor E.&W. S	6,400	...	...	...	6,400	...	Notfn. No. 166 of 8th May 1886.	
	Dharmavaram	Boodikonda * ...	...	...	320	...	320	...	Notfn. No. 157 of 12th June 1888.	
		Kalyándrúg N.&S.	960	...	...	...	960	...	Notfn. No. 8 of 22nd Dec. 1886.	
		Ramgherry ...	10,240	...	...	...	10,240	...		
		Bhadrapur S	3,200	...	...	...	3,200	...		
		Nayalakota S	7,680	...	...	...	7,680	...	Notfn. No. 166 of 8th May 1886.	
		Penukonda Hill S	1,600	...	...	...	1,600	...		
		Somandapally S	10,240	...	...	...	10,240	...		
		Yerlampalle S	2,240	...	...	...	2,240	...		
	Penukonda ...	Mallappakonda S	5,120	...	...	...	5,120	...	Notfn. No. 166 of 8th May 1886.	
		Mallakaveimla-konda. S	960	...	...	...	960	...		
		Naradikonda S	2,560	...	...	...	2,560	...	Notfn. No. 74 of 26th Oct. 1888.	
		Jannvaripalle ...	3,200	...	...	...	3,200	...		
		Agraharam ...	2,300	...	...	...	2,300	...		
		Venglamcheruvu.	2,880	...	...	...	2,880	...		
	Hindupur ...	Yerrakonda S	4,420	...	...	...	4,420	...	Notfn. No. 166 of 8th May 1886.	
		Amagondapalium S	16,360	...	...	...	16,360	...		
		Dokulkonda S	2,880	...	...	...	2,880	...		
		Kondur ...	400	...	...	...	400	...	Notfn. No. 232 of 8th Aug. 1888.	
		Gopidevarapalle S	1,920	...	...	...	1,920	...		
		Total ...	168,060	262½	320	...	168,380	263		
Nilgiris.	Ootacamund ...	Fern Hill Shola S	10	...	...	...	10	...	Notfn. No. 428 of 8th Nov. 1886.	
		Addition to Fair-lawns block No. I. S	22	...	...	...	22	...		
		Addition to Dodda-betta block No. II. S	12	...	...	...	12	...		
		Addition to Doddahalla. S	10	...	...	...	10	...		
		Bilikal road S	25	...	...	...	25	...		
		Nanjanad ...	...	...	888	...	888	...	Notfn. No. 156 of 19th Mar. 1890.	
		Red Hills ...	...	...	50	...	50	...		
		Keradamand ...	...	...	276	...	276	...		
		Welbeck ...	...	...	66	...	66	...		
	Naduvatam ...	Devamalai S	229	...	...	† 229	...	...	Notfn. No. 213 of 27th May 1890.	
	Sigúr	Sigúr	41,127	...	...	...	41,127	...	Notfn. No. 54 of 24th May 1885.	
		Mudumalai ...	46,639	...	...	...	46,639	...	...	Leased forest.
	Coonoor ...	Honnathalai (South). S	218	...	...	...	218	...	Notfn. No 168 of 20th April 1886.	
		Bettumund S	137	...	...	...	137	...		
		Rallia ... S	385	...	...	...	385	...		
		Little Rallia S	29	...	...	...	29	...		
		Rallia Shola S	30	...	...	...	30	...		
		Halakaray S	172	...	...	...	172	...		
		Teppakuchi S	119	...	...	...	119	...		
		Billithittu ... S	35	...	...	...	35	...		
		Dolphin ... S	65	...	...	...	65	...		
		Guernsey ... S	14	...	...	...	14	...		
		Kodámálai S	15	...	...	...	15	...		
	Kótagiri ...	Pillur Slopes ...	...	...	2,332	...	2,332	...	Notfn. No. 156 of 19th Mar. 1890.	
		Pakasuramalai ...	...	...	625	...	625	...		
		Pillur Shola ...	...	...	39	...	39	...		
		Kulear ...	...	...	226	...	226	...		
		Naduhatti S	476	...	...	...	476	...	Notfn. No. 168 of 20th April 1886.	
		St.Catherine's Fall S	124	...	...	...	124	...		
		Constantia S	35	...	...	...	35	...		
		Tuttapolliam S	54	...	...	...	54	...		
		Gudakalhalla S	299	...	...	...	299	...		

* Omitted in the previous year's return. † Transferred to Form 59-A.

Area of Reserved Lands, 1890-91—*cont.*

District.	Range.	Name of Forest.		Area on 1st April 1890. Acres.	Area on 1st April 1890. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1891. Acres.	Area on 31st March 1891. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Nilgiris —*cont.*	Kotagiri —*cont.*	Bettu Nos. 1 and 2	S	29	...	...	..	29	...		
		Kunnavara addition.	S	97	...	...	...	97	...		
		Kanavatti ...	S	16	...	...	...	16	...		
		Deepdale ...	S	361	..	..	...	361	..		
		Gudakal ...	S	600	...	..	...	600	...		
		Clyffe ...	S	33	...	...	...	33	...		
		Yercaudhalla	S	20	...	...	...	20			
		Konakarai Slopes	S	1,864	...	..	...	1,864	...		
		Dodabetta	S	105	...	...	...	105	...		
		Shamrock ..	S	43	...	...	...	43	...		
		Bikkehatti	S	19	...	...	..	19	...		
		Ittakal, Nos. 1 and 2.	S	21	...	...	...	21	...		
		Mavada ...	S	211	...	...	...	211	...	Notfn. No. 168 of 20th April 1886.	
		Kuttada, Nos. 1 and 2.	S	29	...	...	...	29	...		
		Vugapanai ..	S	2,648	...	...	...	2,648	..		
		Denad ...	S	2,073	...	...	...	2,073	...		
		Sundatti ...	S	124	...	...	...	124	...		
		Kunshola ...	S	159	...	...	...	159	...		
		Kirkanara, Nos. 1 and 2.	S	24	...	...	...	24	...		
		Kellatti ...	S	17	..	...	...	17	...		
		Hadumund	S	48	...	...	...	48	...		
		Uppatti ..	S	53	...	...	..	53	...		
		Doddakavu	S	62	...	...	...	62	...		
		Ullavanad Shola	S	57	...	...	...	57	...		
		Sinnattu Shola	S	51	...	..	...	51	...		
		Madanad ...	S	723	...	...	...	723	...		
		Kódanad Valley	S	294	...	...	..	294	...		
		Nadukaduhalla	S	885	...	..	* 885	...	...	Notfn. No. 539 of 5th Dec. 1890.	
		Nedugula ...	S	89	...	...	..	89	...	Notfn. No. 168 of 20th April 1886.	
		Longwood additions.	S	31	...	..	...	31	...		
		Bigulihalla ...		...	...	46	...	46	...		
		Yadakad ...		...	...	117	...	117	...		
		Sutton Shola addition		...	...	36	...	36	...		
		Kolokombe ..		..	..	830	...	830	...	Notfn. No. 180 of 19th Mar. 1890.	
	Melúr ...	Taimalai Shola ..		..	..	43	..	43	...		
		Tudur		...	...	24	...	24	...		
		Melúr Slopes ..		..	...	4,429		4,429	...		
		Osatti		...	...	152	.	152	...		
		Koderu ..		..	...	21	...	21	...		
		Kilur		...	..	9	...	9	...		
	Kullár ...	Kullár additions I. & II.	S	72	...	...	...	72	...	Notfn. No. 168 of 20th April 1886.	
		Benhope, No. 2	S	34	...	...	...	34	...		
		Jakanare Slopes	S	6,419	...	...	...	6,419	...		
		Kallúr ...	S	388	...	...	...	388	...		
		Total ...		61,341 46,639	96 73	10,209 ...	1,114 ...	70,436 46,639	110 73		
		Grand Total ...		4,269,690 86,639	6,671 135½	186,742 ...	698,453 ...	3,757,979 86,639	5,872 135½		

ABSTRACT.

District	Area on 1st April 1890.	Added during the year.		Transferred to Form 59A.	Excluded at settlement or on revised estimate of area.	Area on 31st March 1891.	Remarks.
		Fresh blocks.	Revised estimate of area.				
	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	
Ganjam ...	527½	2½		67		463	
Vizagapatam ...	10					10	
Godâvari	917½	33	1	242		709½	
Kistna	615½	24	3½	277	25	341	
Nellore	541	...	3	115	5	427	
Cuddapah	1,668	...		5	.	1,663	
Kurnool	1,715		201	242	31½	1,642½	
Bellary	315	1½	5½	74	5	243	
	62½	...	...			62½	Leased forest.
Anantapur ...	262½	½	.		...	263	
Nilgiris	96	16	..	2		110	
	73		.	...	..	73	Leased forest.
Total	6,671	77½	214	1,024	66½	5,872	
	135½		..		.	135½	Leased forest.

Annual Form No. 59-D.

Forest Department, Madras, Northern Circle.

Area of Reserved Forests under other orders, 1890-91.

District.	Range.	Name of Forest.	Area on 1st April 1890.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1891.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Vizagapatam.	Pálkonda ...	Rupayi ..	300	...	...	...	300	..	Collector's order, dated 1st Aug. 1888.	
		Donabayi ...	20	...	...	...	20	...		
		Mekava ...	1,500	..		...	1,500	...		
		Yegulada ..	250	...	...	...	250	...		
		Kusumuru ...	3,500	...	...	...	3,500	...		
		Gumpayi ..	1,500	...	...	...	1,500	...		
		Barna ..	4,500	...	.	..	4,500	...		
		Antikonda ...	3,000	...	...	...	3,000	...		
		Samaralli ...	20	...	...	...	20	...		
		Sumbukonda ...	10	...	...	...	10	...		
		Total ...	14,600	23	...	...	14,600	23		

Annual Form No. 60.

Forest Department, Madras, Northern Circle.

Area of Plantations, 1890-91.

District.	Number of Plantations.	On 1st April 1890.		Added during 1890-91.		On 31st March 1891.		Remarks.
		Area.	Cost.	Area.	Cost.	Area.	Cost.	
		acs.	Rs.	acs.	Rs.	acs.	Rs.	
Regular Plantations—								
Ganjam	...	...	...	...	...	...	...	
Vizagapatam	...	...	...	...	...	...	...	
Godávari	4	119	8,249	8	838	127	9,087	
Kistna	16	757	23,256	25	1,858	782	25,114	
Nellore	11	2,716	2,43,125	100	3,323	2,816	2,46,448	
Cuddapah	8	2,100	50,145	...	890	2,100	51,035	
Kurnool	...	...	...	...	...	...	...	
Bellary	...	...	...	...	...	...	...	
Anantapur	...	...	...	...	...	...	...	
Nílgiris	18	1,827¾	1,10,975 *—148	36¾	3,791	1,864½	1,14,760	
Direction	...	...	*—148	...	...	...	...	
Total ...	57	7,519¾	4,35,750 *—148	169¾	10,700	7,689½	4,46,450	* See under cultural operations.
Cultural operations								
Direction	...	...	148	...	112	...	260	
Ganjam	3	...	763	565	917	565	1,680	
Vizagapatam	...	...	...	...	...	...	...	
Godávari	...	...	...	...	...	...	...	
Kistna	4	..	349	...	889	...	1,238	
Nellore	8	545	2,497	172	711	717	3,208	
Cuddapah	14	585	2,400	...	258	585	2,658	
Kurnool	...	...	82	...	...	...	82	
Bellary	4	...	399	...	61	...	430	
					† — 30			† 2 abandoned.
Anantapur	5		..	52½	610	52½	- 610	
Nílgiris	5	41½	5,475	4	1,158	45½	6,633	
Total ...	43	1,171½	12,113	793½	4,716 — 30	1,964½	16,799	

Annual Form No. 61.

Forest Department, Madras, Northern Circle.

List of Topes, 1890-91.

District.	Number.	Area.	Cost		Remarks.
			During year.	To end of year.	
		Acs.	Rs.	Rs.	
Ganjam	7	101	...	922	
Vizagapatam	2	56	...	14	
Godávari	..	..	...	...	
Kistna	* 7	53	258	2,072	* 1 constituted during the year, 3 acres.
Nellore	111	1,752	...	38,044	
Cuddapah	72	1,629	1,134	57,781	1 constituted during the year in Cuddapah Taluk, 40 acres.
Kurnool	27	182	267	9,368	
Bellary	31	240	177	1,037	
Anantapur	95	2,885	544	4,903	
Nilgiris	...	...	...	...	
Total ...	352	6,898	2,380	1,14,141	

Forest Department, Madras, Northern Circle.

Abstract of Form No. 62 showing by districts the area of forest tracts protected from fire during 1890-91.

District.	Area protected during 1889-90.		During dry season of 1890-91.				Total cost up to 31st March 1891.	Remarks.
	Area actually protected.	Total cost.	Area attempted to be protected.	Fires.	Area actually protected.	Amount expended.		
	Acs.	Rs.	Acs.	Acs.	Acs.	Rs.	Rs.	
Ganjam	320,960	4,278	331,505	14,277	317,228	1,316	5,594	
Vizagapatam	23,520	225	17,120	...	17,120	402	627	
Godávari	126,286	872	126,746	490	126,256	650	1,522	
Kistna	97,022	4,628	136,113	1,882	134,231	1,071	5,699	
Nellore	68,280	2,380	117.860	2,580	115,280	848	3,228	
Cuddapah	432,114 —23,972	30,963	523,850	25,244	498,606	6,168	37,131	
Kurnool	36,657	4,289	44,440	16,100	28,340	1,834	6,123	
Bellary	230,023	16,274	244,390	15,924	228,466	2,192	18,466	
Anantapur	57,048	8,108	80,218	22	80,196	2,028	10,136	
Nilgiris	207,678	16,460	223,087	52,142	170.945	2,730	19,190	
Total ...	1,599,588 —23,972	88,477	1,845,329	128,661	1,716,668	19,239	1,07,716	

Annual Form No. 63.

Forest Department, Madras, Northern Circle.

Prosecutions for Breaches of Forest Rules during 1890-91.

District.	Cases pending from 1889-90.	New cases of the year.					Disposed of during the year.							Cases pending at close of year.
		Injury to forest by fire.	Unauthorized felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.	Total cases.	Convictions.		Acquittals.		Total.		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
Ganjam ...	8	3	56	2	4	65	73	4	30	9	12	13	42	60
Vizagapatam ...	31	...	463	8	1	472	503	292	321	41	110	333	431	170
Godávari ...	3	...	104	23	4	131	134	43	71	22	47	65	118	69
Kistna ...	50	2	65	61	25	153	203	133	349	22 *19	65	155 *19	414	29
Nellore ...	17	...	38	6	...	44	61	33	122	8	60	41	182	20
Cuddapah ...	24	5	77	44	13	139	163	115	328	26	163	141	491	22
Kurnool ...	1	2	171	31	16	220	221	117	224	85	374	202	598	19
Bellary ...	4	...	43	2	9	54	58	33	73	23	103	56	176	2
Anantapur ...	7	2	51	21	6	80	87	69	114	6	13	75	127	12
Nílgiris ...	...	...	5	1	...	6	6	2	14	1	3	3	17	3
Total ...	145	14	1,073	199	78	1,364	1,509	841	1,646	262	950	1,103	2,596	406

	Cases compounded under section 55 of the Madras Forest Act.													Amount for which compounded.
														Rs.
Ganjam ...	†...	...	19	2	...	21	21	21	46	...	...	21	46	602
Vizagapatam ...	...	...	135	34	...	169	169	169	189	...	..	169	189	493
Godávari ...	...	...	4	...	1	5	5	5	9	...	...	5	9	22
Kistna ...	...	9	89	7	5 ‡1	105	105	103	223	2	7	105	230	624
Nellore ...	...	...	8	...	...	8	8	8	19	...	...	8	19	51
Cuddapah ...	...	1	82	20	15	118	118	118	337	...	...	118	337	1,030
Kurnool ...	...	...	47	17	6	70	70	70	319	...	...	70	319	1,852
Bellary ...	..	..	22	...	...	22	22	22	60	...	...	22	60	65
Anantapur ...	...	..	9	2	...	11	11	11	24	...	...	11	24	150
Nílgiris ...	...	...	8	4	...	12	12	12	56	...	...	12	56	196
Total ...		10	417	86	28	541	541	539	1,282	2	7	541	1,289	5,085

* Of these 19, 18 cases were withdrawn while one was transferred to the list of cases compounded.

† It is explained by the District Forest Officer that 13 cases shown as pending at the close of the year 1889-90 was a mistake.

‡ Transferred from the List of Prosecutions.

ANNUAL FORM No. 64.

Forest Department, Madras, Northern Circle.

SUMMARY of Revenue of the different districts, 1890-91.

Budget heads, Receipts.	Direction.	Ganjam.	Vizagapatam	Godávari	Kistna.	Nellore.	Cuddapah.	Kurnool.	Bellary.	Anantapur	Nilgiris.	Total.
	Rs.	Rs.	Rs.	Rs	Rs.	Rs	Rs.	Rs.	Rs	Rs	Rs.	Rs.
I.—Timber and other produce removed from the forests by Government Agency—												
(a) Timber		12,223		5,876	33	.	18,085			132	5,692	42,041
(b) Firewood and charcoal		2,921		1,136	598	25,301	202	44,336	490	228	20,528	95,740
(c) Bamboos ..	.	36					90		932	740	.	1,798
(d) Sandalwood								.			11,229	11,229
(e) Grass and other minor produce ..		1				6,891	1,354		2,104	57	481	10,888
II.—Timber and other produce removed from the forests by consumers or purchasers—												
(a) Timber ...		611	837	47,709	28,100	11,342	15,364	43,013	5,762	2,772	1,278	1,56,788
(b) Firewood and charcoal		9,242	3,927	7,639	9,978	2,958	32,070	10,132	6,040	1,838	1,259	85,083
(c) Bamboos		3,038	3,023	35,065	2,473	113	8,214	18,145	301	24	2,528	72,924
(d) Grazing and fodder grass		4	102	5,527	41,170	13,075	7,629	9,021	1,074	1,657	2,011	81,270
(e) Other minor produce	.	1,273	1,620	14,661	19,919	21,121	50,587	12,375	23,398	21,501	1,459	1,67,914
III.—Confiscated drift and waif wood ..		70	4	3,106	174	80	662	1,557	41	33	39	5,766
IV.—Revenue from forests not managed by Government .	.	55				.					..	55
V.—Miscellaneous—												
(a) Fines and forfeitures		20		1,436	50		12		1			1,519
(b) Refunds .	91	157	48	169	125	526	35	391	2	118	367	2,029
(c) Other sources	96	772	564	169	750	365	1,307	5,157	179	313	741	10,503
Total, Receipts	187	30,423	10,125	1,22,493	1,03,370	81,772	1,35,701	1,44,127	40,324	29,413	47,612	7,45,547

MADRAS,
3rd July 1891.

(Signed) C. G. DOUGLAS,
Examiner of Forest Accounts.

ANNUAL FORM No. 64.

Forest Department, Madras, Northern Circle.

SUMMARY of Expenditure of the different districts, 1890-91.

Budget heads.	Direction.	Ganjam.	Vizagapatam.	Godávari	Kistna.	Nellore.	Cuddapah.	Kurnool.	Bellary.	Anantapur.	Nilgiris.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
A.—Conservancy and Works.												
I.—Timber and other produce removed from the forests by Government Agency—												
(a) Timber ...	...	4,968	117	2,635	5	...	12,679	...	...	18	2,235	22,657
(b) Firewood and charcoal ...	...	5,506	...	465	242	15,566	639	20,882	381	105	9,224	53,010
(c) Bamboos ...	...	39	...	...	...	..	246	21	150	194	...	650
(d) Sandalwood ...	...	...	..	...	..	...	...	...	...	...	1,574	1,574
(e) Grass and other minor produce.	...	...	..	..	4	4,517	378	224	513	30	167	5,833
II.—Timber and other produce removed from the forests by consumers or purchasers ...	54	1,182	2,025	6,426	3,284	498	6,865	9,454	374	1,279	1,450	32,891
III.—Confiscated drift and waif wood ...	...	1,160	10	1,282	4	1	84	36	...	5	...	2,582
IV.—Revenue from forests not managed by Government ...	...	...	...	...	...	..	...	...	...	...	...	...
V.—Rent of leased forests, and payments to shareholders in forests managed by Government ...	...	...	...	...	...	...	...	..	10,000	...	3,500	13,500
VI.—Live stock, stores, tools and plant—												
(a) Purchase of cattle ..	...	..	...	...	...	...	..	...	...	...	...	...
(b) Feed and keep of cattle ...	...	...	...	2,202	...	...	...	..	...	..	1,395	3,597
(c) Stores, tools and plant ...	508	48	...	551	536	647	144	429	202	148	1,997	5,210
VII.—Communications and buildings—												
(a) Roads and bridges ...	...	1,062	6	2,146	1,249	...	729	830	514	359	2,125	9,020
(b) Buildings ...	...	2,603	...	1,288	1,594	1,064	1,534	1,753	570	1,910	3,131	15,447
(c) Other works ...	...	...	...	...	297	...	30	...	...	...	221	548
VIII.—Demarcation, improvement and extension of forests—												
(a) Demarcation ...	...	5,066	99	2,483	1,383	299	2,106	381	154	3,309	3,609	18,889
(b) Compensation for land and rights ...	...	...	...	728	1,643	66	548	1,111	...	25	...	4,121
(c) Surveys and working plans ...	971	800	...	401	49	413	718	704	327	310	89	4,782
(d) Plantations ...	112	917	...	838	3,005	4,034	2,282	267	238	1,154	4,949	17,796
(e) Protection from fire ...	...	1,316	402	650	1,071	848	6,168	1,834	2,192	2,028	2,730	19,239
(f) Other works ...	...	192	...	2,154	1,671	496	898	5	1,120	134	698	7,368
IX.—Miscellaneous—												
(a) Refunds ...	...	261	19	164	750	337	551	...	52	92	...	2,226
(b) Law charges ...	14	...	...	1	12	34	4	...	1	...	294	360
(c) Other charges.	77	173	...	52	616	29	45	160	90	2	552	1,796
Total A.—Conservancy and works	1,736	25,293	2,678	24,466	17,415	28,849	36,648	38,091	16,878	11,102	39,940	2,43,096

MADRAS,
3rd July 1891.

(Signed) C. G. DOUGLAS,
Examiner of Forest Accounts.

ANNUAL FORM No. 64.

Forest Department, Madras, Northern Circle.

SUMMARY of Expenditure of the different districts, 1890-91.

Budget heads	Direction	Ganjam.	Vizagapatam.	Godâvari	Kistna.	Nellore	Cuddapah	Kurnool.	Bellary.	Anantapur.	Nîlgiris.	Total.
B.—"*Establishments.*"	Rs.	Rs	Rs.	Rs.	Rs	Rs.	Rs	Rs.	Rs	Rs	Rs.	Rs.
Brought forward, Total A. "Conservancy and Works"	1,736	25,293	2,678	24,466	17,415	28,849	36,648	38,091	16,878	11,102	39,940	2,43,096
I.—Salaries												
(a) Conservators	14,801											14,801
(b) Superior officers	19,466	7,400	3,050	7,005	3,000	6,850	8,295	3,540	6,850	2,976	7,100	75,532
(c) Subordinate forest and depôt establishments.	1,500	4,984	2,207	8,500	6,896	6,732	11,189	8,496	5,991	5,174	8,523	70,192
(d) Office establishments.	14,603	1,691	829	1,836	1,766	2,339	2,744	2,288	1,269	1,353	1,077	32,695
(e) Deputation and special allowances	696											696
II.—Travelling allowances—												
(a) Conservators ..	3,368											3,368
(b) Superior officers	3,051	1,168	1,421	1,156	766	714	2,098	593	1,043	626	2,075	14,711
(c) Subordinate forest and depôt establishments	608	2,318	488	2,764	1,985	1,469	3,038	2,817	1,710	1,340	2,691	21,228
(d) Office establishments	2,112	333	194	271	529	240	656	367	189	376	141	5,408
III.—Contingencies—												
(a) Stationery	9	9	7	11						..		36
(b) Carriage of tents and records ..	627	126	62	96	199	109	79	31	77	159	40	1,605
(c) Rents, rates and taxes	125	283	12	180	1		28	3	101	9		742
(d) Pay of police guards											..	
(e) Official postage	682	371	80	388	626	174	454	288	294	255	226	3,838
(f) Sundries	1,384	199	48	348	110	182	199	77	101	142	817	3,607
Total B. "Establishments"	63,032	18,882	8,398	22,555	15,878	18,809	28,780	18,500	17,625	12,410	23,590	2,48,459
Grand Total of expenditure	64,768	44,175	11,076	47,021	33,293	47,658	65,428	56,591	34,503	23,512	63,530	4,91,555

MADRAS,
3rd July 1891.

(Signed) C. G. DOUGLAS,
Examiner of Forest Accounts.

Annual Form No. 65.

Forest Department, Madras, Northern Circle.

Outstandings and Liabilities on account of Contractors and Disbursers for 1890-91.

District.	Department Debtor.			Department Creditor.			Balance due.	
	At commencement of year.	Recoveries in cash and value of supplies and work done during the year.	At close of year.	At commencement of year.	Payments made during year.	At close of year.	To Department (Outstandings).	By Department (Liabilities).
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
Conservator of Forests, Northern Circle ...	...	1,600 10 8	1,600 10 8	33 12 4	1,601 12 3	1,635 8 7	34 13 11	...
Two-fifths of Examiner's office	...	1,743 1 10	1,743 1 10	309 0 9	1,493 9 8	1,802 10 5	59 8 7	...
Forest Settlement office, Nellore and Bellary ...	...	287 4 0	287 4 0	14 8 0	290 0 0	304 8 0	17 4 0	...
Do. Kistna. &c.	... ...	.....	.....	.....	.....	... ..	.....	...
Forest School, Dehra Dun.	...	.....	.....	.....	50 0 0	50 0 0	50 0 0	...
Ganjam	...	27,792 11 7	27,792 11 7	3,858 10 8	26,776 2 6	30,634 13 2	2,842 1 7	...
Vizagapatam	...	5,696 10 11	5,696 10 11	363 10 3	5,624 13 10	5,988 8 1	291 13 2	...
Godávari	...	35,913 15 5	35,913 15 5	1,945 15 5	37,250 10 7	39,196 10 0	3,282 10 7	...
Kistna	...	26,380 15 1	26,380 15 1	681 12 2	25,767 13 11	26,449 10 1	68 11 0	...
Nellore	...	37,993 4 2	37,993 4 2	913 8 3	38,885 0 10	39,798 9 1	1,805 4 11	...
Cuddapah	...	45,951 13 5	45,951 13 5	280 7 1	47,016 14 3	47,297 5 4	1,345 7 11	...
Kurnool	...	31,681 13 3	31,681 13 3	553 4 8	31,479 3 9	32,032 8 5	350 11 2	...
Bellary	...	16,950 2 8	16,950 2 8	269 7 0	16,790 5 10	17,059 12 10	109 10 2	...
Anantapur	...	17,614 15 9	17,614 15 9	710 8 9	17,111 2 7	17,821 11 4	206 11 7	...
Nílgiris	...	24,151 13 7	24,151 13 7	1,448 15 7	22,840 10 10	24,289 10 5	137 12 10	...
Total ...	...	2,73,759 4 4	2,73,759 4 4	11,383 8 11	2,72,978 4 10	2,84,361 13 9	10,602 9 5	...

Madras,
3rd July 1891.

(Signed) C. G. DOUGLAS,
Examiner of Forest Accounts.

Annual Form No. 66.

Forest Department, Madras, Northern Circle.

Revenue received and Outstandings on account of Revenue during 1890-91.

District.	Particulars.	Outstandings at commencement of year.	Value of sales and other revenue during year.	Total.	Amount realized during year.	Balance due to the department at end of year.
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Direction ...	Timber and other produce ...	.....	186 8 1	186 8 1	186 8 1	.....
Ganjam ...	Do. ..	9,982 12 6	21,225 0 1	31,207 12 7	30,423 3 1	784 9 6
Vizagapatam ...	Do.	... ..	10,124 14 7	10,124 14 7	10,124 14 7	... .
Godávari ...	Do. ...	6 1 0	1,23,003 10 4	1,23,009 11 4	1,22,492 11 4	517 0 0
Kistna	Do. ...	1,088 8 6	1,04,997 14 7	1,06,086 7 1	1,03,370 1 10 * +187 0 0	2,529 5 3
Nellore	Do. ...	.....	81,772 5 7	81,772 5 7	81,772 5 7	.....
Cuddapah ...	Do. ...	592 0 9	1,35,728 14 9	1,36,320 15 6	1,35,701 4 6 † +20 0 0	599 11 0
Kurnool	Do. ...	.....	1,44,127 7 0	1,44,127 7 0	1,44,127 7 0	.....
Bellary	Do. ...	1,168 6 0	40,556 13 11	41,725 3 11	40,323 9 0 ‡ +137 13 9	1,263 13 2
Anantapur ...	Do. ...	0 4 5	29,413 3 9	29,413 8 2	29,413 8 2	.....
Nílgiris	Do. ...	173 3 2	47,541 14 8	47,715 1 10	47,611 12 7	103 5 3
	Total ...	13,011 4 4	7,38,678 11 4	7,51,689 15 8	7,45,892 3 6	5,797 12 2

* Written off the accounts as per Board's Proceedings, No. 463 of 5th August 1890.
† Do. Board's Proceedings, No. 1232 Mis., of 28th November 1890.
‡ Do. Board's Proceedings, No. 219 Mis., of 13th March 1891.

Madras,
3rd July 1891.

(Signed) C. G. DOUGLAS,
Examiner of Forest Accounts.

ANNUAL FORM No. 67.

Forest Department, Madras, Northern Circle.

FINANCIAL Results of the year 1890-91.

District.	TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY GOVERNMENT AGENCY.		OTHER REVENUE.		FORMATION, PROTECTION AND IMPROVEMENT OF FORESTS.	TOTAL.	
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Ganjam	15,181	23,174*	15,265	7,967	20,806	30,446	51,947
Vizagapatam	.	117	10,132	7,529	6,020	10,132	13,666
Godávari .	7,012	6,538	1,15,504	23,557	24,698	1,22,516	54,793
Kistna .	631	251	1,02,762	16,951	23,863	1,03,393	41,065
Nellore . ..	32,192	31,039	49,603	5,814	18,577	81,795	55,430
Cuddapah . ..	19,731	22,065	1,15,993	22,382	28,753	1,35,724	73,200
Kurnool	44,336	21,127	99,811	23,630	19,606	1,44,150	64,363
Bellary	3,526	3,324	36,812	16,314	20,047	40,338	39,685
Anantapur ..	1,157	317	28,270	11,263	17,084	29,427	28,694
Nilgiris	37,930	27,787	9,696	14,755	26,170	47,626	68,712
Total ..	1,61,696	1,35,769	5,83,851	1,50,162	2,05,624	7,45,547	4,91,555

Forest Department, Madras, Northern Circle.

ABSTRACT of Form No. 68 showing the number of trees felled by selection by Government Agency during the year 1890-91.

District.	Teak.	Sál.	Black or rose-wood.	Iron-wood.	Eucalyptus and Acacia.	Miscel-laneous.	Total.
Balance on hand on the 31st March 1890	72	132	11	136	.	284	635
							*6,911
Ganjam .. .		2,633				266	2,899
Vizagapatam				2		7	9
Godávari	10,883		.	21	..	1,420	12,324
Kistna ...					..	1,464	1,464
Bellary				.		5	5
Anantapur ...					...	265	265
Nilgiris	240		20		5,835	270	6,365
Total ..	11,123	2,633	20	23	5,835	3,697	23,331
Conversion	11,195	2,735	26	43	5,835	3,916	23,750
Otherwise disposed of	...		2	...	. .	13	15
Total ...	11,195	2,735	28	43	5,835	3,929	23,765
Balance on hand on the 31st March 1891 .	..	30	3	116		52	201

* Bamboos omitted this year as the form is intended for *trees* felled.

Forest Department, Madras, Northern Circle.

ABSTRACT of Form No. 69 showing by districts the collection of timber, &c., in the Northern Circle during the year 1890-91.

	Timber.							Firewood and charcoal.	Bamboos.	Sandal-wood.	Minor produce.	* Remarks.
	Teak.	Sál.	Red sanders.	Iron-wood.	Black-wood or rose-wood.	Miscellaneous.	Total.					
	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	NO.	MDS.	MDS.	
Stock of the circle at the beginning of the year 1890-91	11,606	{ *40,290 + 807 }	7,202	2,282	1,477	{ 18,040½ — 807 }	80,897½	870,554	13,453	† 96	854½	* Erroneously included under miscellaneous in the previous year's return.
Ganjam		20,006				995	21,001	96,654	6,723		23,409	
Godavari	52,877			572		7,540	60,998	44,947				
Kistna						94	94	4,080	19,035		18	
Nellore						169	169	153,746			12,222	† Or 43 cubic feet.
Cuddapah	28		67,222			7,602	74,850	28,516	11,288		1,340	
Kurnool								573,503			308	
Bellary								9,708	43,283		3,747	
Anantapur	8					1,611	1,619	32,404	47,064		1,022½	
Nilgiris	8,296				872	10,347½	19,515½	242,539		‡ 1,431	163½	‡ Cubic feet.
Total actual new collection	61,207	20,006	67,222	572	872	28,367½	178,246½	1,186,247	118,293	1,431	42,315½	
Collection by conversion	...	3,808	...	...	...	..	3,808	...	...	...	...	
Forest depot transfers	...	1,528	...	...	...	80	1,608	1,380	...	213	...	
Total	61,207	25,342	67,222	572	872	28,447½	183,662½	1,187,627	118,293	1,644	42,315½	
Grand Total	72,813	66,439	74,424	2,854	2,349	46,681	264,560	2,058,181	131,746	1,687	43,170	
Sold in the forests	31,837	5,110	...	402	1,100	9,701½	48,240½	843,093	70,101	1,214	10,259	
Disposal by conversion	...	10,513	...	...	...	64	10,577	...	...	...	...	
Removed to sale depots	26	12,661	72,858	...	...	9,032½	94,577½	352,352	18,265	...	27,625½	
Forest depot transfers	...	1,528	...	...	...	80	1,608	1,380	...	213	...	
Otherwise disposed of	1,913	1,628	1,566	...	...	3,604	8,711	80,378	20,869	43	383	
Total	33,776	31,440	74,424	402	1,100	22,482	163,714	1,277,203	109,235	1,470	38,267½	
Stock at the close of the year	39,037	§ 34,999	...	2,362	1,249	23,199	100,846	§ 780,978	22,511	217	4,902½	

§ The stock at close of year includes a quantity of sál timber and firewood which more recent verification proves to be missing and is the subject of enquiry.

Forest Department, Madras, Northern Circle.

ABSTRACT of Form No. 70 showing by Districts the Receipts and Issues of Timber and other Produce in Sale Depôts during the year 1890-91.

	Timber.							Firewood and charcoal.	Bamboos.	Minor produce.
	Teak.	Sál.	Red sanders.	Iron-wood.	Black or rose-wood.	Miscellaneous.	Total.			
	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	NO.	MDS.
Stock on 1st April 1890	...	4,200	90,378	304	46	3,269	98,197	55,065	38	4,000½
Received from forests—										
Ganjam	...	12,661	..	..	...	567	13,228	122,005	4,075	22,168
Vizagapatam	...	...	...	...	..	..	..	795	...	...
Godávari	...	...	..	..	...	2,731	2,731	...	..	...
Kistna	...	...	..	..	...	..	..	..	...	..
Nellore	...	...	..	...	...	..	..	68,912	...	4,535½
Cuddapah	26	...	72,858	...	...	5,522	78,406	...	1,634	749½
Kurnool	...	..	..	..	...	..	..	..	..	..
Bellary	...	...	..	..	...	...	..	966	358	150
Anantapur	...	...	..	...	...	..	..	..	12,198	22½
Nilgiris	...	...	...	...	..	212½	212½	159,674	..	...
Total	26	12,661	72,858	...	...	9,032½	94,577½	352,352	18,265	27,625½
Received from other sale depôts	...	..	6	...	...	316	322	49,160	3,786	1,730
Received by conversion	...	3	..	...	...	...	3	...	...	...
Quantity found in the depôt	...	3,339	...	...	...	280	3,619	25,699	18,802	720½
Total	26	16,003	72,864	...	...	9,628½	98,521½	427,211	40,853	30,075½
Grand Total	26	20,203	163,242	304	46	12,897½	196,718½	482,276	40,891	34,085
Sold from depôt	26	4,663	65,839	...	...	7,955½	78,483½	374,997	16,444	6,847½
Removed to other sale depôts	...	..	6	...	...	316	322	49,160	3,786	1,730
Disposed by conversion	...	714	...	...	...	...	714	...	...	...
Otherwise disposed of	...	3,281	1,409	...	...	1,274	5,964	5,403	7,311	23,879½
Total disposals	26	8,658	67,244	...	..	9,545½	85,483½	429,560	27,541	32,457
Balance in depôts on 31st March 1891.	...	11,545	95,988	304	46	3,352	111,235	52,716	13,350	1,628

Annual Form No. 71.

Forest Department, Madras, Northern Circle.

Sales of Timber and other Produce cut and collected by Government Agency during the year 1890-91.

District.	Timber.												Total Timber.			
	Teak		Sál.		Red sanders.		Ironwood.		Black or rosewood.		Miscellaneous		From depot.		From forest.	
	From depot	From forest	From depot	From forest.	From depot.	From forest.	From depot.	From forest.	From depot.	From forest	From depot.	From forest.	Quantity.	Amount	Quantity.	Amount.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	C FT	C. FT	C. FT	C.FT.	C FT.	C.FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT	C. FT.	C.FT.	Rs	C. FT.	Rs.
Ganjam			4,663	5,110							496		5,159	2,704	5,110	220
Vizagapatam																
Godávari		20,870						492			2,176	113	2,176	1,304	21,475	4,567
Kistna												20			20	33
Nellore											2		2			
Cuddapah	26				65,839						4,941	1,798	70,809	17,061	1,798	328
Kurnool																
Bellary																
Anantapur		8										942			950	132
Nilgiris		10,959								1,100	337½	6,828½	337½	26	18,887½	5,666
Total	26	31,837	4,663	5,110	65,839			492		1,100	7,955½	9,701½	78,483½	22,095	48,240½	10,946

District	Fuel				Bamboos				Sandalwood				Minor produce.			
	From depot		From forest		From depot		From forest		From depot.		From forest		From depot.		From forest.	
	Quantity	Amount	Quantity.	Amount.	Quantity	Amount.	Quantity.	Amount.	Quantity.	Amount	Quantity	Amount.	Quantity	Amount.	Quantity.	Amount.
	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
	C. FT.	Rs.	C. FT.	Rs.	NO.	Rs.	No.	Rs	C. FT.	Rs	C. FT.	Rs	MDS.	Rs.	MDS.	Rs.
Ganjam	113,134	2,932			2,254	36							1	1		
Vizagapatam																
Godávari			23,023	1,653												
Kistna			5,450	576												
Nellore	78,246	19,618	53,379	5,683									4,699½	4,780	4,738½	2,111
Cuddapah			7,876	202	1,634	67	2,533	28					1,973½	1,031	500½	217
Kurnool			573,563	44,336												
Bellary	2,484	302	2,277	188	358	10	32,925	922					150	28	3,406	1,055
Anantapur			31,134	228	12,198	275	34,643	465					23½	50	1,030	7
Nilgiris	176,133	14,454	146,391	6,006							1,214	11,229			583½	478
Total	374,997	37,306	843,093	58,872	16,444	388	70,101	1,415			1 214	11,229	6,847½	5,890	10,259	3,866

		Quantity sold	Sold from depot. Rs.	Sold from forest. Rs.
I (a)	C. Ft.	126,724	22,095	10,946
I (b)	C. Ft.	1,218,090	37,306	58,872
I (c)	No	86,545	388	1,415
I (d)	C. Ft.	1,214		11,229
I (e)	Mds	17,106½	5,890	3,866
		Total	65,669	86,328
Grand total of sales during the year, both from depots and forests				151,997
Add amount of outstandings of previous year				11,630
		Total		1,63,627
Deduct amount realized during the year as per Form No. 64				1,61,696
Balance outstanding on 31st March 1891, as per Form No. 66				1,931

Annual Form No. 72-A.

Forest Department, Madras, Northern Circle.

Timber and other Produce cut, collected and removed by consumers or purchasers, during 1890-91.

District.	Timber.	Fire-wood and charcoal.	Bamboos.	Money Value of Sales.											
				Timber.		Firewood.		Bamboos.		Grazing and fodder grass.		Minor Produce.		Total.	
				Amount of sales.	Amount actually realized.	Amount of sales.	Amount actually realized.	Amount of sales.	Amount actually realized.	Amount of sales.	Amount actually realized.	Amount of sales.	Amount actually realized.	Amount of sales.	Amount actually realized.
	C. FT.	C. FT.	NO.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
Ganjam	21,400	780,135	154,661	611	611	9,242	9,242	3,038	3,038	4	4	1,273	1,273	14,168	14,168
Vizagapatam ...	26,035	174,950	278,250	837	837	3,927	3,927	3,023	3,023	102	102	1,620	1,620	9,509	9,509
Godâvari	422,670	340,831	7,016,543	47,709	47,709	7,639	7,639	35,065	35,065	5,527	5,527	14,621	14,661	1,10,601	1,10,601
Kistna	418,327	702,396	584,310	28,100	28,100	10,087	9,978	2,473	2,473	42,537	41,170	20,092	19,919	1,03,289	1,01,640
Nellore	73,348	75,003	1,840	11,342	11,342	2,958	2,958	113	113	13,075	13,075	21,121	21,121	48,609	48,609
Cuddapah	485,237	1,380,113	937,050	15,364	15,364	32,070	32,070	8,214	8,214	7,629	7,629	50,617	50,587	1,13,894	1,13,864
Kurnool	433,780	384,780	2,702,000	43,013	43,013	10,132	10,132	18,145	18,145	9,021	9,021	12,375	12,375	92,686	92,686
Bellary	12,722	206,970	15,620	5,762	5,762	6,048	6,040	301	301	1,212	1,074	24,509	23,398	37,832	36,575
Anantapur	25,656	104,982	2,325	2,772	2,772	1,838	1,838	24	24	1,657	1,657	21,501	21,501	27,792	27,792
Nilgiris	7,103	24,997	242,685	1,278	1,278	1,250	1,250	2,528	2,528	2,011	2,011	1,459	1,459	8,535	8,535
Total ...	1,526,368	4,184,166	11,935,284	1,56,788	1,56,788	85,200	85,083	72,924	72,924	82,775	81,270	1,69,228	1,67,914	5,66,915	5,63,979
Add outstandings due from previous year as per Form No. 66														1,265	
Total ...														5,68,180	
Deduct amount realized during the year as per Form No. 64														5,63,979	
Do. amount written off														345	
Balance outstanding on 31st March 1891 as per Form No. 66														3,856	

Annual Form No. 72-B.

Forest Department, Madras, Northern Circle.

Timber and other Produce confiscated and sold during the year 1890-91.

District.	Timber.	Fuel.	Bamboos.	Minor produce.	Total amount of sales.	Amount actually realized.
	C. FT.	C. FT.	NO.	RS.	RS.	RS.
Ganjam	192	654	366	...	70	70
Vizagapatam	...	118	...	1	4	4
Godâvari	7,522	14,006	2,535	76	3,106	3,106
Kistna	2,102	28	717	5	174	174
Nellore	360	600	...	...	80	80
Cuddapah	1,555	1,180	17	49	* 662	* 662
Kurnool	2,159	312	2,520	9	1,557	1,557
Bellary	78	131	...	17	41	41
Anantapur	128	33	..	21	33	33
Nilgiris	120	52	9	...	39	39
Total ...	14,216	17,114	6,164	178	5,766	5,766

* Of which Rs. 116 is on account of outstanding of previous year.

ANNUAL FORM No. 73-A.

Forest Department, Madras, Northern Circle.

ABSTRACT showing the Value of Timber and other Produce at sale depôts, for the year 1890-91.

District.	Description of timber or produce	On hand at commencement of the year.			On hand at end of the year.			Difference in value.		Remarks.
		Number.	Cubic feet.	Value.	Number.	Cubic feet.	Value	In favor of the year.	Against the year.	
				Rs			Rs	Rs.	Rs.	
Ganjam ...	Sál logs	225	2,061	674	1,076	10,930	4,098	3,424		
	Do. sleepers	468	2,086	365	270	600	540	175		
	Do. rafters	71	39	5	4	2	1		4	
	Do. planks	27	11	1	25	13	1		.	
	Do slabs	13,184		232	8,397		132		100	
	Ebony	3	46	21	3	46	21		..	
	Miscellaneous	214	2,992	647	948	2,367	400		247	
	Total timber		7,238	1,945		13,958	5,193	3,248	.	
	Firewood and charcoal		13,047	25		41,654	1,050	1,025	.	
	Bamboos	38	..	1	13,350		170	169	.	
	Minor produce Mds.		..	...	1,232	..	20	20	..	
Vizagapatam.	Fuel			.		795	12		12	
Godávari .	Ironwood sleepers	228	304	456	228	304	456			
	Miscellaneous				68	319	80	80	...	
	Total timber	228	304	456	296	623	536	80	...	
Nellore ...	Casuarina pole	1	2	1			..		1	
	Firewood ...		9,847	2,456	.	48	30		2,426	
	Minor produce Mds.	66	Mds 198	380		..		.	380	
Cuddapah.	Red sanders	Tons 1,883	90,378	23,196	1,999	95,988	19,991		3,205	
	Miscellaneous ...				320	516	134	134		
	Total timber	1,883	90,378	23,196	2,319	96,504	20,125			
	Minor produce Mds	3,810¼		1,356	396	.	117		1,239	
Bellary	Fuel	26	1,794	190			.		190	
Anantapur	Minor produce Mds	1		3					3	
Nilgiris ...	Drag poles, &c	275	275	37	150	150	187	150		
	Total timber	275	275	37	150	150	187	150		
	Firewood and charcoal .	576¾	30,377	2,429	248	10,219	815		1,614	
	Grand Total			32,475	...		28,255		4,220	

ABSTRACT.

Timber ..		98,197	25,635		111,235	26,041	406	...	
Fuel		55,065	5,100		52,716	1,907	..	3,193	
Bamboos	38		1	13,350	..	170	169		
Minor produce Mds.	4,000¼	Mds	1,739	1,628	Mds	137		1,602	
Total ...			32,475			28,255		4,220	

Annual Form No. 73-B.

Forest Department, Madras, Northern Circle.

Abstract showing the Value of Live-stock, Stores, Tools and Plant for the year 1890-91.

District.	Description of stock.	On hand at commencement of the year.		On hand at end of the year.		Difference in value.		Remarks.
		Number.	Value.	Number.	Value.	In favour of the year.	Against the year.	
			Rs.		Rs.	Rs.	Rs.	
Direction ...	Surveying and other instruments.	19	193	24	402	...	...	
	Furniture	80	1,004	107	1,670	...	...	
	Letter-weighing scales with weights.	2	108	2	120	...	...	
	Miscellaneous	8	57	27	121	...	...	
	Total ...	109	1,362	160	2,313	951	...	
Ganjam ...	Rest or inspection houses	7	5,433	* 13	7,915	...	...	* Russelkonda, Berhampore, Gullery, Hatiguda, Ramba, Tilsingi, Chondorgiri, Jaganathprasad, Guadribadi, Khariguda, Bonta, Tarsingi and Kurcholi.
	Range houses	3	1,590	† 3	1,590	...	...	† Gayagonda, Mojjagodo, and Surada.
	Guards' and tannah huts.	16	953	16	953	...	...	
	Surveying and other instruments.	26	434	23	392	...	...	
	Furniture	46	365	46	350	...	...	
	Tools	200	319	178	276	...	...	
	Cash chests	...	...	10	80	...	...	
	Letter-weighing scales.	1	34	1	34	...	...	
	Miscellaneous	3	43	6	130	...	...	
	Total ...	302	9,171	296	11,720	2,549	...	
Vizagapatam.	Surveying and other instruments.	10	23	10	23	...	...	
	Tools	16	...	16	...	...	...	
	Furniture	22	97	22	97	...	...	
	Miscellaneous	1	12	1	12	...	...	
	Total ...	49	132	49	132	...	...	
Godávari ...	Rest or inspection house.	3	2,100	‡ 5	2,800	...	...	‡ Rekapalli, Murmúr, Jirigappa, Singaram, and Chintoor.
	Range house	1	350	§ 1	350	...	...	§ Marrigudem.
	Depôt and office sheds ...	8	236	8	236	...	...	
	Guards' and tannah huts.	10	97	10	97	...	...	
	Surveying and other instruments.	32	385	48	494	...	...	
	Tools	458	441	577	506	...	...	
	Furniture	61	496	56	346	...	...	
	Boat	1	1,500	1	1,500	...	...	
	Scales with tripods with 3 sets of weights.	3	413	3	459	...	...	
	Letter-weighing scales ...	...	...	1	16	...	...	
	Cash chests	...	...	17	246	...	...	
	Elephants	4	6,000	4	6,000	...	...	
	Miscellaneous	120	651	139	1,146	...	...	
	Total ...	701	12,669	870	14,196	1,527	...	

Abstract showing the Value of Live-stock, Stores, Tools and Plant for the year 1890-91—*cont.*

District	Description of stock	On hand at commencement of the year		On hand at end of the year.		Difference in value.		Remarks
		Number.	Value	Number.	Value	In favour of the year	Against the year.	
			Rs.		Rs.	Rs	Rs.	
Kistna ...	Rest or inspection house	3	3,010	* 4	4,700	..	..	* Kondapalli, Kondavid, Remedicherla and Bellamkonda.
	Range house .	..		† 1	350			† Vinukonda.
	Guards' and tannah huts.	10	266	37	1,110		.	In the return for 1889-90, 10 was a mistake for 30, and 7 Guards' huts were constructed during the year 1890-91
	Surveying and other instruments.	39	656	50	597			
	Tools	298	147	315	361			
	Furniture	41	354	45	357		...	
	Boats (staff)	1	2,420	1	2,000	.		
	Dingies	5		6	465	...		
	Letter-weighing scales ..	1	2	2	42	...	...	
	Cash boxes ...	...	...	17	165		..	
	Miscellaneous ...	1	23	4	83		.	
	Total	399	6,878	482	10,230	3,352		
Nellore ...	Rest or inspection house.	1	1,150	1	1,150			Udayagiri Sriharikota.
	Office building		...	1	200			
	Guards' and tannah huts.	4	.	6				
	Surveying and other instruments	45	271	56	375	.		
	Tools	382	331	361	303		.	
	Furniture	91	407	56	388	..	...	
	Scales and weights, 55 sets. ..	7	744	7	743			
	Cash safes .. .	4	210	4	210	.		
	Boxes	18	28	17	26		.	
	Boats	11	4,478	‡ 12	4,646		.	‡ 1 boat was sold in auction for Rs 87, and 2 newly built for Rs. 255
	Tramway ..	8½	31,338	8½	32,644	. .		
	Miscellaneous .	2	35	37	192	...		
	Total	573½	38,992	569½	40,877	1,885		
Cuddapah ...	Rest or inspection houses	6	11,240	§ 6	10,710	...	.	§ Kodur, Sanipaya, Balapalle, Mogilipenta, Horsleykonda, and Vontimetta.
	Range houses	5	2,920	5	3,100		..	‖ Rayachoti, Sidhout, Rajampet, Badvél, and Kodúr.
	Depôt and office sheds	4	670	4	668	.		
	Guards' and tannah huts.	81	1,463	84	1,338			
	Surveying and other instruments.	41	381	49	510	..	..	
	Tools	360	579	329	421	.	..	
	Furniture .	81	515	87	550		...	
	Scales and weights	7	565	7	565		..	
	Cash chests			11	92			
	Buffaloes .	2	32	2	32		...	
	Miscellaneous		...	16	160			
	Total	587	18,365	600	18,146	...	219	
Kurnool ..	Bungalow, head-quarters	1	11,000	1	11,000			Nandyal.
	Rest or inspection houses	4	4,700	¶	4,387		..	¶ Rollapenta, Bainuti, Mantrala, and Buswapur.
	Range houses ..	2	550	** 2	400			** Dornal, and Kistnamchettipalle.
	Guards' and tannah huts.	31	2,084	31	1,925	...	..	
	Surveying and other instruments	35	339	35	339	...	...	
	Tools	614	1,083	642	1,121	..		
	Furniture . .	39	206	49	398	...	..	

Abstract showing the Value of Live-stock, Stores, Tools and Plant for the year 1890-91—*cont.*

District.	Description of stock.	On hand at commencement of the year.		On hand at end of the year.		Difference in value.		Remarks.
		Number.	Value.	Number.	Value.	In favour of the year.	Against the year.	
			Rs.		Rs.	Rs.	Rs.	
Kurnool—*cont.*	Cash chest	1	8	10	68	...	...	
	Scales with weights ...	1	10	1	10	...	...	
	Miscellaneous	...	...	6	10	...	...	
	Total ...	728	19,980	781	19,658	...	322	
Bellary ...	Range house	1	561	* 1	1,105	...	...	* Sandúr.
	Rest or inspection house.	1	500	1	450	...	...	† Donemalai.
	Guards' and tannah huts.	3	35	3	25	...	...	
	Surveying and other instruments.	25	253	32	120	...	...	
	Tools	230½	236	238½	239	...	...	
	Furniture	37	319	29	272	...	...	
	Scales with weights ...	3	248	1	220	...	...	
	Letter-weighing scales.	1	15	3	15	...	...	Value of 2 not known.
	Cash chests	...	...	5	35	...	...	
	Miscellaneous	1	23	16	47	...	...	
	Total ...	302½	2,190	329½	2,537	347	...	
Anantapur ...	Head-quarters bungalow, with out-house.	1	6,991	1	6,991	...	...	
	Rest or inspection houses	2	5,800	‡ 4	7,800	...	...	‡ Gollah, Konapanainapalle, Pathakottacheruvu, and Penukonda.
	Range houses	...	...	§ 2	960	...	...	§ Dharmavaram and Bukkapatnam.
	Guards' and tannah huts.	15	79	‖ 3	100	...	...	‖ 13 huts costing Rs. 39 are not worth keeping in the list as they are temporary sheds. 1 hut on Rs. 60 newly built.
	Surveying and other instruments.	43	142	47	227	...	...	
	Tools	148	276	86	166	...	...	
	Furniture	61	375	57	342	...	..	
	Cash safe with padlock.	6	52	6	50	...	...	
	Scales with weights ...	4	200	4	180	...	...	
	Letter-weighing scales with 7 weights.	...	...	1	7	...	...	
	Miscellaneous	1	23	88	171	...	...	
	Total ...	281	13,938	299	16,994	3,056	...	
Nilgiris ...	Rest or inspection houses.	¶ 2	1,860	4	2,917	...	...	¶ Kullar, Rallia.
	Range houses	5	970	5	1,280	...	...	
	Guards' and tannah huts and seed houses.	43	2,415	50	2,640	...	...	
	Surveying and other instruments.	35	235	37	321	...	...	
	Tools	780	1,440	807	1,565	...	...	
	Furniture	59	590	71	623	...	...	
	Charcoal kiln	2	545	4	1,900	...	...	
	Elephants	2	1,600	2	1,200	...	...	
	Do. calves... ...	3	1,100	3	1,600	...	...	
	Miscellaneous.							
	Chains of elephants ...	8	160	10	90	...	...	
	Fetters	...	...	2	10	...	...	
	Total ...	939	10,915	995	14,146	3,231	...	
	Grand Total ...	4,971	1,34,592	5,431	1,50,949	16,357	...	

ANNUAL FORM No. 74.

Forest Department, Madras.

Statement of Elephants in Northern Circle during the year 1889-90.

PART I.

Elephants in possession of the Reporting Officers throughout the year.

District.	Names.	When purchased or otherwise obtained by Government.	Cost of monthly keep including servants and food.	Rs.	A.	P.	Remarks.
Godávari.	Bada moti gus	Purchased in July 1888.	Average per month.	45	14	0	
	Pown gus	Do. do. ...	Do. do. ...	45	14	0	
	Captain Gunning ...	Do. do. ...	Do. do. ...	45	14	0	
	Jung Bahadúr	Do. do. ...	Do. do. ...	45	14	0	Total expenditure Rs. 2,202 for 12 months.
Nílgiris ...	Lutchmi	Transferred from the Anamalais on the 30th January 1882.	April 1890 ...	54	0	0	
	Chinna Lutchmi ...		May do. ...	55	0	0	
	Mabu Baksh	Born in January 1885...	June do. ...	186	4	10	
	Akbar Baksh	Born on 22nd February 1888.	July do. ...	56	6	0	
	Meenatchi	Born on 9th April 1889.	August do. ...	105	0	0	
			September do. ...	167	8	0	
			October do. ...	55	0	0	
			November do. ...	184	4	0	
			December do. ...	99	8	0	
			January 1891 ...	73	0	0	
			February do. ...	127	0	0	
			March do. ...	232	0	0	Total expenditure Rs. 1,394-14-10 for 12 months.

PART II.

Elephants received in the year.

District.	Names.	When purchased or otherwise obtained by Government.	Cost of keep including servants and food.	Remarks.
		Nil.		

PART III.

Elephants gone off the list during the year.

District.	Names.	When purchased or otherwise obtained by Government.	Cost of keep including servants and food.	How disposed of.
		Nil.		

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

READ—again the following G.O., dated 12th December 1891, Nos. 1187A, 1287A, Revenue:—

Read—the following Proceedings of the Board of Revenue (Land Revenue), dated 14th October 1891, Forest No. 433:—

THE HON. MR. J. GROSE.

Read—the following letter from the Acting Conservator of Forests, Southern Circle, to the Secretary to the Commissioners of Land Revenue, dated Madras, 15th August 1891, No. 1349:—

I have the honour to submit herewith the report in print (complete) by Colonel I. Campbell Walker, Conservator of Forests, on the Administration of the Forest Department in this Circle during 1890–91.

ENCLOSURE No. 1.—Report for 1890–91.

Read—the following letter from E. D. M. HOOPER, Esq., Acting Conservator of Forests, Northern Circle, to the Secretary to the Commissioners of Land Revenue, dated Madras, 4th August 1891, No. 1380:—

I have the honour to submit the Annual Administration Report of the Forests of the Northern Circle of the Madras Presidency for the year ending 31st March 1891. Having only assumed charge of the circle three months subsequent to the period under report, I would crave the indulgence of Government for any shortcomings in the report which has been prepared in a very short time and with considerable difficulty on account of the vagueness of the information and inaccuracy of the figures reported to this office.

ENCLOSURE No. 1.—Report for 1890–91.

Resolution—dated 14th October 1891, Forest No. 433.

The Board begs to submit to Government its review of the reports of the Conservators of Forests on the progress of forest administration in the Madras Presidency for 1890–91.

2. *Establishment.*—The subjoined table shows the strength of the staff in the two circles :—

	Northern Circle.	Southern Circle
Conservators	1	1
Deputy Conservators	4	8
Assistant Conservators	8	7
Sub-Assistant Conservators	6	8
Rangers	24	33
Foresters	50	77
Forest Guards	359	396

There was no change of any importance in the establishment during the year. Since its close, however, proposals for the increase and reorganization of both the superior and the subordinate establishments have been submitted to Government and have received the approval of the Government of India and the sanction of the Secretary of State This new scale of establishment will be brought into force gradually in the two circles as qualified men become available ; and when the full complement is entertained, the result cannot but be most marked in the more efficient protection and development of the forests and the expansion of the revenue of the department. Even with the present limited resources at its disposal, the department has realized during the year under review a gross revenue of nearly 18 lakhs ; out of this, only some 12½ lakhs have been spent, leaving a surplus of 5½ lakhs, the highest on record, but it would be a mistake to consider the leaving of so large a surplus as this a matter for unalloyed satisfaction : in these early days of forest exploitation, the forests need all the money that can be spent upon them, and a surplus of nearly one-third of the total receipts is obviously much greater than it should be. For this starving of the forests, the present weakness of the staff must be held responsible, and with the full staff now sanctioned, therefore, this should be remedied, and a plentiful investment of capital in buildings, roads, demarcation, survey, &c., should be made.

Colonel Walker was in charge of the Southern Circle for the whole year, and Mr. Peet, of the Northern Circle, with the exception of a few days in March 1891. The former inspected all the districts in his circle, and the latter all his districts except Ganjam and Vizagapatam

3. *Area of Forests.*—The following statement shows the area of the several classes of forests at present under the control of the department :—

	Area on 31st March 1890.	Added	Excluded	Area on 31st March 1891
	SQ. MLS.	SQ. MLS	SQ MLS.	SQ. MLS.
A Reserved forests	3,738	1,411	37	5,112
B. do. lands .. .	12,327½	648½	1,540½	11,435½
C. Other forests	1,476½	186	387	1,275½
Total	17,542	2,245½	1,964½	17,823

The increase under reserved forests is the result of the final notification of a number of blocks which were under settlement and were consequently shown as reserved lands in the return of the previous year. With it is a corresponding decrease under reserved lands. The area of new blocks brought under the control of the department as reserved lands during the year was 186 square miles in the Madura and Salem districts of the Southern Circle and 77½ square miles in several districts of the Northern Circle. The areas of several of the old blocks have been recomputed, and this has caused considerable differences between the figures of 1889–90 and those of 1890–91.

The annexed statement shows the existing area of reserved forests and reserved lands in each district and the percentage of the two to the total uncultivated area of the district ; these areas will have, however, to be considerably increased with reference

to Government Order, dated 29th October 1890, No. 844, in which Government has laid down the principle that the Forest Department should undertake the task of providing the timber, fuel and pasture supply of the Presidency, realizing that it is useless to leave it to the ryots to undertake their own supply. Under this order of course the area under control will have to be very largely increased, and the further selection of areas is being proceeded with on this basis. Collectors have estimated the probable increase in the several districts at 5,381 square miles; formal proposals showing in detail the possibilities of each taluk have not been submitted by them, but are expected shortly. Even for the districts for which schemes have already been submitted with reference to Government Order, dated 16th January 1888, No. 51, and approved by Government, revised schemes showing their requirements under the new Government Order have been called for :—

Northern Circle.	Reserved forests excluding forests reserved under previous rules.	Reserved lands	Percentage of reserved areas to uncultivated area of the district	Southern Circle	Reserved forests excluding forests reserved under previous rules.	Reserved lands	Percentage of reserved areas to uncultivated area of the district
	SQ MLS	SQ MLS			SQ MLS	SQ MLS	
Ganjam	85	463	32·6	Chingleput	126	56	16·6
Vizagapatam	4	10	·9	North Arcot	430	523	38·2
Godávari	345	709½	45·1	South Arcot	148	662	31·2
Kistna	346	341	28·2	Salem	684	570	37·3
Nellore	168½	427	23·5	Trichinopoly	141	95	22·5
Cuddapah	356	1,663	36·3	Tanjore	9	16	3·1
Kurnool	242	1,642½	45·4	Coimbatore	685	1,848	73·3
Bellary	77	305½	16·4	Madura	379	114	30·8
Anantapur	14	263	10·6	Tinnevelly	428	162	47·3
Nilgiris	201½	183	60·7	Malabar	158	442	14·6
				South Canara	85	940	31·5
Total	1,839	6,007½	30·7	Total	3,273	5,428	34·7

It will be seen that the percentages are higher in the districts of the Southern Circle where forest conservancy is more advanced than in those of the Northern. These percentages range from 73·3 to 3·1 in the former and from 60·7 to ·9 in the latter circle. The figures for the districts of Tanjore, Trichinopoly, Chingleput, Malabar and Canara in the Southern Circle are low, but the circumstances of these districts are special. In Tanjore, which is not a real forest district, conservancy has not been seriously taken in hand hitherto chiefly owing to the want of a separate District Forest-officer. The present District Forest-officer of Trichinopoly and Tanjore has, however, recently investigated the district and has expressed his opinion that there is an ample area available for planting operations on the river margins—an opinion in which the Acting Collector also agrees. The Board has therefore recommended the separation of this district from the Trichinopoly division. This will no doubt be done as soon as an officer of the controlling staff becomes available. Mr. Carroll was engaged for a few months in the selection of areas for reservation, but owing to paucity of officers he had to be transferred to Salem before the work could be completed. In Trichinopoly proposals have been received for the reservation of a large extent in the Kulitalai, Musiri and Perambalúr taluks and these will be shortly submitted to Government and will add considerably to the area under control. In Malabar and Canara, the extension of forest operations has been rendered difficult by the peculiar tenure on which land is held in those districts and the absence of the usual Government waste land. In Chingleput the general sterility of the soil has stood in the way of forming large reserves. In most of the districts it is believed that the further selection of reserves with reference to the order of 29th October last has not yet been taken up with any energy chiefly owing to paucity of officers. But the question of relieving District Forest-officers of their routine work by the appointment of special officers in order to enable them to give more time to selection and settlement is engaging the attention of the Board.

In the Northern Circle the work of selection is still incomplete in most of the districts and this accounts for the smaller percentage of reserved areas as compared with the Southern Circle. The question of village forests, however, having been definitely set at rest, there ought to be no difficulty in ascertaining the exact forest requirements of each district and in constituting all reserved lands finally into reserved forests.

4. *Settlement.*—The following statement shows the progress of forest settlement in the form prescribed by the Government of India:—

Circle.	Unreserved forest area, 1st April 1890.	Added during year (net).	Total.	Area notified under section 4, 1st April 1890.	Added during year (net).	Notified under section 16 during year (net).	Balance notified under section 4 but unsettled.	Total unreserved area on 31st March 1891.
1	2	3	4	5	6	7	8	9
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.
Northern Circle	6,842½	— 799½	6,043	6,455	* 225	‡ 1,024	5,656	6,043
Southern ,, ...	6,962	— 294	6,668	2,958	† 775	§ 360	3,373	6,668

* This is made up of 147½ square miles due to the rectification of the area of the blocks added in previous years and 77½ square miles, the area notified for settlement during the year.

† The area notified for settlement during the year was 902 square miles, but 103 square miles in North Coimbatore and 24 square miles in Madura had to be deducted from it, these being the decrease caused by the recomputation of, and an error in, the areas of blocks notified for settlement in previous years.

‡ In this figure, 10 square miles in Vizagapatam deducted owing to rectification of area have not been taken into account.

§ The area actually notified under section 16 was 378 square miles; but to this 9 square miles had to be added and 27 square miles deducted, owing to rectification of areas.

	Northern Circle. SQ. MLS.	Southern Circle. SQ. MLS.
1883–84	..	725
1884–85	7½	388
1885–86	95	413
1886–87	372	312
1887–88	151	564
1888–89	6	398
1889–90	193½	113
1890–91	1,014	360
Total ...	1,839	3,273

It will be seen that the area finally notified during the year is far larger in the Northern Circle than in the Southern Circle, and that the area is larger in 1890–91 than in any of the previous years as shown in the margin. The blocks notified under section 4, but not notified under section 16, consist of 391 blocks of 5,656 square miles in the Northern Circle and of 292 blocks of 3,373 square miles in the Southern Circle.

The balance in the Northern Circle is particularly large in the Cuddapah, Kurnool and Godávari districts. In Godávari, there are 43 blocks (area, 709½ square miles)—3 (area, 182 square miles) to be settled by the Special Assistant Agent in charge of Bhadráchalam and Rékapalle taluks and 40 (area, 527½ square miles) by the Special Forest Settlement-officer M.R.Ry. D. Jagannada Row. Of these, the three former are awaiting the survey of the forest boundaries, which the Collector has been requested to expedite. Of the 40 blocks entrusted to M.R.Ry. Jagannada Row, reports for 7 blocks (area, 103·31 square miles) have been submitted by him, 15 (area, 262·19 square miles) are awaiting demarcation by the District Forest-officer, 1 (area, 2½ square miles) is awaiting the preparation of a sketch-map to accompany the final notification, in two blocks (area 7 square miles) steps are being taken to acquire the private lands and the rest (area, 152·5 square miles) have not yet been taken up by the Forest Settlement-officer.

In Kurnool 12 blocks (area, 1,642½ square miles) were pending at the end of the year; of these one (viz., North Dhone) (area, 15·62 square miles) is still pending with the Forest Settlement-officer, five (area, 962 square miles) have been notified since the close of the year, one (area, 3·1 square miles) has been submitted to Government and the remaining five (area, 661·8 square miles) are pending disposal by the Board.

In Cuddapah 89 blocks (area, 1,482 square miles) were pending notification; of these 59 (area, 1,068·5 square miles) had been reported on by the Forest Settlement-

officer, and of these 59, 40 (area, 985·4 square miles) had been returned by the Board for revision and were pending with the District Forest-officer for the preparation of correct sketch-maps and boundary descriptions; 22 more (area, 338·5 square miles) had been settled, but the report was delayed for want of the maps and boundary descriptions; the remaining 8 (area, 75 square miles) were pending either with the Forest Settlement-officer or the District Forest-officer in various stages of settlement. The blocks were notified under section 4 in 1884 and 1886, but their settlement has been delayed for various reasons, and the final notifications for many of them will probably come up with the notifications for the additional areas taken up under the Government Order of October 1890, many of which will be extensions of those previously selected. Of the total balance for the Northen Circle, 75 per cent. is said to have been actually settled, but the final reports for this area have not yet reached the Board.

It would have been convenient for reference if a statement similar to that furnished by the Conservator of Forests, Southern Circle, showing the years in which the blocks still pending were notified under section 4 had been furnished. The Conservator is requested to supply this in his future reports.

In the Southern Circle, the balances in North and South Arcot, Salem and North Coimbatore call for remark. In North Arcot the whole of the area has been settled, but is awaiting notification. In South Arcot, the greater portion has been settled, but has not been notified either for want of maps, &c., or because the private lands included have not yet been acquired by exchange of other lands, &c. Only those recently notified are still under settlement. So in Salem some of the oldest blocks are only awaiting the result of appeals filed by claimants against the orders of Forest Settlement-officers and those lately notified are still under settlement.

The following statement shows the state of forest settlement work at the close o the year under review:—

—	Total under settlement.		Total finally notified.		Total settled and awaiting notification.		Under settlement.	
Northern Circle.	NO.	SQ. MLS.	NO.	SQ. MLS.	NO.	SQ. MLS.	NO.	SQ. MLS.
Ganjam	41	532	8	85	16	249½	17	197½
Vizagapatam	6	14	1	4	..	..	5	10
Godávari	77	1,054½	34	345	11	303	32	406½
Kistna	65	687	44	346	9	263	12	78
Nellore	123	576½	88	168½	27	199	8	209
Cuddapah	109	1,838	20	356	81	1,407	8	75
Kurnool	15	1,884½	3	242	9	1,594½	3	48
Bellary	64	320	25	77	13	67	26	176
Anantapur	45	277	5	14	19	128	21	135
Nilgiris	127	311½	53	201½	55	30	19	80
Total ..	672	7,495	281	1,839	240	4,241	151	1,415
Southern Circle.								
Chingleput	91	161	59	126	15	25	17	10
North Arcot	94	873	50	430	44	443	..	..
South do.	113	659	44	148	48	314	21	197
Salem	126	1,116	78	684	25	262	23	170
Trichinopoly	74	197	39	141	29	29	6	27
Tanjore	24	19	17	9	7	10	..	..
North Coimbatore	13	1,278	6	119	4	657	3	502
South do.	10	566	10	566	..	..	..	..
Madura	81	476	73	379	8	97	..	..
Tinnevelly	39	589	29	428	10	161	..	..
North Malabar	13	261	7	119	6	142	..	..
South do.	21	299	6	39	10	19	5	241
South Canara	27	152	16	85	11	67	..	..
Total ..	726	6,646	434	3,273	217	2,226	75	1,147

It shows that out of a total area of 14,141 square miles notified under section 4, 5,112 square miles or 36 per cent. has been finally notified under section 16, that 6,467

square miles or 45 per cent. has been settled but not notified, and that the remainder, which is only 19 per cent., is under settlement. The figures noted in the margin show that there has been better progress made both in settlement and in actual notification in the year 1890–91 than in either of the two preceding years; but the Board is very sensible that such progress is even yet not so rapid as could be wished. The delays occur chiefly because of the want of maps and because of the wide area over which the Forest Settlement-officers have to travel. The former, the Board has remedied as far as possible by placing a number of surveyors at the disposal of Conservators to be used by them whenever most needed; the latter, it has it in its mind to remedy by greater concentration. Blocks to be settled come up from several districts together and have to be allotted to one or other of the four Settlement-officers sanctioned for the Presidency; this means that each Forest Settlement-officer has blocks in four or five districts at a time to attend to, and partly to set the settlement work in motion, partly to utilize elsewhere the delays which the Act prescribes at particular stages of the settlement of each block, the Forest Settlement-officer travels backwards and forwards working now in one district, now in another. This leads to confusion and delays of its own, and the Board proposes, therefore, to adopt a system of greater concentration, each Forest Settlement-officer being directed to finish one district before commencing another. If, at the same time, assistance is given to the District Forest-officer to enable him, with hands free of routine work, to push on with the selection of the additional areas required under the Government Order of October 1890, the Board trusts that it will be found possible to take and complete, once and for all, district after district in fairly rapid succession.

Year.	Notified.		Settled but not notified.	
	Northern Circle.	Southern Circle.	Northern Circle.	Southern Circle.
	Sq. mls.	Sq. mls.	Sq. mls.	Sq. mls.
Up to 1888-89	631	2,800	3,830	1,695
,, 1889-90	825	2,913	4,022½	2,378
,, 1890-91	1,839	3,273	4,241	2,226

The Board has also issued detailed instructions in regard to the preliminary demarcation and mapping necessary for settlement; hitherto it has been usual to leave this to be done after settlement, *i.e.*, between the notification under section 4 and that under section 16 and the result is seen in the large number of blocks which now have to be entered year after year as "settled but not reported on:" these blocks, in other words, are waiting to be demarcated and mapped, before the final notification can be guaranteed to be accurate; and this delay is the cause of considerable confusion, both to the public and to the local officials. The Board has now altered this, and has, on the suggestion of Government, ordered the demarcation and mapping to precede the settlement, a procedure which will both give the Settlement-officer and the public a better idea of the area that is being dealt with and will avoid the tedious delay, already referred to; arrangements have also been made by which the District Forest-officers will be able to obtain the assistance of the Revenue Survey-officer in preparing the settlement sketches required.

The information called for in the official memorandum from Government, dated 20th August 1891, No. 94, regarding the work turned out by each of the Special Forest Settlement-officers up to 1890–91, is not available in the Board's office. The Conservators have been called upon to submit the information forthwith and, when received, a report will be separately submitted.

5. *Demarcation.*—The length of the permanently demarcated line was 812 miles in the Northern and 1,531 miles in the Southern Circle. The cost was Rs. 9–9–0 and Rs. 12–6–7 per mile, respectively. The cost in the different districts of the Northern Circle varies very considerably, ranging from Rs. 2 to Rs. 21. For the Southern Circle the work done in each district and the cost per mile are not given, but only the total for the circle; the increase in the average cost per mile, however, in that circle, as compared with that of previous year, is due to the erection of more durable

marks in most districts. In addition to permanent demarcation, 245 miles in the Northern Circle were preliminarily demarcated; 14 miles of boundary were protected by fences or trenches; 782 miles of old lines were recleared and about 12,000 boundary marks were erected; in the Southern Circle, the proprietors of private forests adjoining Government forests in Salem, North and South Arcot and Madura were called upon to clear their boundaries under the Boundary Act; a few of them complied with the requisition, and in the case of others the Conservator has decided to execute the work departmentally and recover the cost from the parties concerned. Proposals have been received from the two Conservators to issue a uniform set of rules for forest demarcation. The matter is under the consideration of the Board and will be shortly disposed of. The work in Anantapur is said to be the best in the Northern Circle, and in the Nílgiris the original demarcation having been found to be unsatisfactory, the lines had to be recleared and fresh marks erected which has contributed to the heavy cost. In Kurnool six miles of boundary were cleared free of charge in return, it is reported, for permission to remove the produce cut.

6. *Surveys and Working Plans.*—The main work of forest survey is done by the Government of India Party which, beginning at the South of the Presidency, is gradually working its way northwards, Tinnevelly, Madura and Coimbatore being now in hand. The survey of forest areas in Bellary and Adoni is being carried out by the Madras Revenue Survey, which is now at work in those districts. Besides this, a certain amount of petty work, useful mainly for settlement purposes, is being executed by departmental surveyors temporarily employed.

The Government of India Survey Party was engaged as in previous years in the districts of the Southern Circle and turned out about 1,050 square miles of triangulation, 274 miles of traversing, and 440 square miles of topography in the survey year 1890–91. The outturn is satisfactory compared with the results of the two previous years, and the cost per square mile topographically surveyed has been reduced from Rs. 161 to Rs. 111. In April last the Board conferred with the Surveyor-General (India) on the question of cost, and measures were agreed on which will increase the outturn and reduce the cost to its normal rate. This will be done by concentrating Forest Settlement work on particular and adjoining districts, so that the Survey Department may find completed tracts for them to deal with, and not individual and isolated blocks which can only be taken up, some at one time and some at another, to the loss of both time and labour. The field season also will in future be lengthened as much as possible by starting the work earlier. An approximate survey programme for a term of years has also been agreed on.

In the Southern Circle temporary surveyors were employed for preparing maps for settlement purposes in North Arcot, South Arcot, Salem, Trichinopoly, Tanjore and South Canara. In Madura a deputy surveyor of the Madras Survey Department was employed in surveying certain forests in the Kotagudi valley, which it is proposed to take over under the control of the department. In the Northern Circle, departmental surveys were made in Ganjam, Nellore, Anantapur and Kurnool for settlement purposes.

The Madras Survey Department is surveying, in connection with its own work, the forest areas in the Adóni and Alúr taluks of Bellary, and in the Anantapur district.

The cost of the departmental surveys in the Northern Circle was Rs. 4,782, and that in the Southern Circle was Rs. 10,249. The cost of the survey by the Government of India Party for the financial year was Rs. 70,564. For the corresponding survey year the cost is given approximately as Rs. 69,856.

In the matter of working plans the department is still weak: neither settlement nor organization is sufficiently advanced for the purpose, and all that can be done for the present is to work on annual schemes, and to collect data for use later on.

In the Southern Circle, the working plan of the Cauvery south bank plantations in Trichinopoly is reported to have been adhered to; that of the Morur block in Salem was deviated from—it is not stated why. The working plan of the Walayar reserve in

South Malabar was sanctioned during the year, and a few other working plans are under revision or preparation in Madura and South Coimbatore districts. The working of the Nilambúr and Sholakarai blocks according to their working schemes is reported to have been most satisfactory. In Tinnevelly the results of the coupé system have been carefully recorded as a preliminary to the preparation of working plans, and so in South Arcot an enumeration of the growing stock in two of the reserves was made at a small cost by way of collecting data for the preparation of working plans. The working schemes laid down for the casuarina plantations in North Arcot are reported to have been deviated from without authority.

In the Northern Circle, the few working plans that were laid down have not been adhered to and it is stated that no real progress can be made in the preparation of working plans for the next two years; meanwhile, however, rough annual schemes of operations will be drawn up in each district and submitted with the budget and will be adhered to as far as possible. As already stated, more than this cannot be expected until settlement is more complete.

7. *Fire protection.*—The subjoined abstract shows the area attempted, the area burnt and the cost incurred during 1890–91:—

	Districts	Area attempted.	Area burnt	Expenditure during the dry season of 1890–91	Cost up to the end of 1890–91
		SQ MLS	SQ MLS	RS.	RS.
Northern Circle	Ganjam	517·97	22 31	1,316	5,594
	Vizagapatam	26·75	..	102	627
	Godávari	198 04	·77	650	1,522
	Kistna	212·68	2 94	1,071	5,699
	Nellore	184·15	4·03	848	3,228
	Cuddapah	818·52	39 44	6,108	37,131
	Kurnool	69 44	25 16	1,834	6,123
	Bellary	381 86	24·88	2,192	18,466
	Anantapur	125 34	03	2,028	10,136
	Nilgiris	348·57	81·47	2,730	19,190
	Total ..	2,883 32	201·03	19,239	1,07,716
Southern Circle	Chingleput	36·40	31	512	3,827
	North Arcot	872 17	3 71	2,289	20,083
	South Arcot	203·50	4·22	875	7,370
	Salem	48·40	02	2,066	18,711
	Trichinopoly	124·61	..	215	2,552
	Tanjore	..	..	..	..
	Coimbatore	90·90	05	2,315	12,305
	Madura	303·08	6·70	5,052	32,371
	Tinnevelly	165·99	4 22	4,174	20,243
	Malabar	174 35	7·31	3,344	20,967
	South Canara	25·59	·04	1,379	5,066
	Total ..	2,044·99	26·58	22,221	1,43,495

The cost of protection has slightly increased in both circles as compared with 1889–90—in the Northern Circle from Rs. 6–10–0 to Rs. 7–2–9 a square mile and in the Southern from Rs. 10–10–5 to Rs. 11. The percentage of area protected to the area attempted is, however, nearly the same being 93 per cent. in the Northern and 99 per cent. in the Southern Circle. In both circles the area under protection was slightly in excess of that in 1889–90, about 135 square miles having been added in the Northern and 183 in the Southern Circle. The increase in the cost in the Southern Circle is attributed to the unusual length of the fire season. The increase in the Northern Circle is not explained.

In the Sandúr leased forest a considerable area is said to have been burnt through the fire lines not being properly cut, chiefly owing to the delay in the commencement of firetracing and the employment of the Ranger on census work and Forest Settlement duty. In the Nílgiris 40,000 acres have been burnt in the Mudumalai leased forest. In Ganjam, Cuddapah and Kurnool the areas burnt are large; but no explanation is given by the Conservator. On the whole, the results of fire-protection attempted in both circles may be considered to be fair.

The Conservator, Northern Circle, suggests that the expenditure on areas under special protection should be separately accounted for, and not mixed up with ordinary unburnt unprotected areas. The suggestion is a good one and should be considered with reference to paragraph 3 of the Government Order, dated 28th July 1891, No. 678, on the Government of India review of the report for 1889–90. Indeed, more method generally appears to be needed in the direction of taking up and maintaining areas under special fire protection; as it is, areas appear to be taken up in one year and dropped in the next, large areas with indefinite boundaries and ineffective protection take the place of small definite and really protected blocks, and as the Conservator, Northern Circle, says, the figures are vitiated and confused by the mixing up unprotected with protected blocks. The Board does not believe that any considerable area of unprotected forest escapes burning for a series of years; it may escape for one or two years, but it burns all the more disastrously sooner or later, and the addition of such areas to the specially protected blocks, therefore, renders the figures for the latter useless. The Board believes only in special protection as a real safe-guard, and the blocks to be so protected, should, therefore, be carefully selected, thoroughly firetraced and permanently maintained. They may be extended as money and establishment permit, but it should be impressed on District Forest-officers, that a little well protected is better than a great deal badly protected, that a small area the whole of which is continuously protected is better than a far larger area, half of which is burnt one year and the other half the next.

8. *Grazing.*—The following table shows the receipts from grazing during the year under review as compared with those of the year previous :—

Districts.	1889–90.	1890–91.
	Rs.	Rs.
Northern Circle.		
Ganjam	7	4
Vizagapatam	23	102
Godávari	1,959	5,527
Kistna	48,541	41,170
Nellore	16,036	13,075
Cuddapah	3,814	7,629
Kurnool	5,419	9,021
Bellary	878	1,074
Anantapur	1,154	1,657
Nilgiris	1,639	2,011
Total	79,470	81,270
Southern Circle.		
Chingleput	2,087	2,337
North Arcot	4,466	7,885
South Arcot	2,683	4,829
Salem	12,016	14,096
Trichinopoly	6,358	6,515
Tanjore	739	576
Coimbatore	33,432	28,777
Madura	2,321	2,319
Tinnevelly	158	838
Malabar	115	573
South Canara	...	.
Total	64,375	68,745

As observed in the Board's review for 1889–90, the revenue under this head shows a tendency to rise, notwithstanding the fact that the rates have not been raised anywhere in the Presidency; indeed, in some cases, they have been reduced, and it is partly to this fact and partly to the increased facilities provided for grazing that the rise is due. The increase in the Northern Circle is chiefly in the Godávari, Cuddapah and Kurnool districts. The increase in Godávari is attributed to a reduction in the rates of fees which has stimulated grazing. In Cuddapah it is attributed to better supervision and to an increase in the number of foreign cattle, chiefly from Nellore,

grazed in the reserves. That in Kurnool has not been explained. Against these increases has to be noticed a large decrease in Nellore and Kistna. In the latter district the contract system has always obtained, but the contractors were compelled to reduce the fees charged by them to the rates leviable under the rules, and the result has been a falling off in the revenue to the extent of Rs. 7,371. The Collector is in favour of the departmental collection of grazing dues and is introducing it experimentally in parts; as he says, there is a great deal to be said in its favour and notably the fact that the ryot is dealt with direct and not through a middleman, who, unless tied down by very strict conditions and supervision, must always be under the temptation to increase his profits, illicitly, at the expense either of the ryot or of Government. The Board observes, also, that the Collector claims for it greater control, the particular advantage which Conservators have hitherto claimed for the contract system. In Nellore the revenue is realized in the shape of rent on grazing lands. The lands are leased out annually in public auction and the result of the sales depends on competition among bidders and other causes.

In the Southern Circle, the principal variations are in North and South Arcot, Salem and Coimbatore. There has been an increase in the three first districts and a decrease in the last. In North Arcot the increase is attributed to better supervision, and in South Arcot to increase in the number of foreign cattle grazed in the reserves. In Salem the increase is not explained; but, with reference to the Board's remark in its review of the report for 1889–90, the Collector reported that the increase resulted from the removal of the limit imposed on the number of cattle admitted into the reserves and the abolition of free-grazing hitherto allowed. The decrease in North Coimbatore is attributed to a falling off in the number of foreign cattle owing to an outbreak of cattle-disease in Kollegál and Satyamangalam forests, and that in South Coimbatore to a portion of the revenue of 1890–91 having been collected and credited in 1889–90. In spite of the generally unfavorable season there have been no complaints of restrictions in regard to grazing, probably because most of the reserves were virtually thrown open.

The information regarding the area available for free-grazing and the area closed to grazing in each district called for in Government Order, dated 7th May 1890, No. 314, has not yet been furnished by Collectors. The system of cutting the grass instead of grazing it down appears to have been tried in South Coimbatore, where a sum of Rs. 1,648 is said to have been realized by the sale of grass in 1890–91; but the particulars of the experiment have not been reported. The attention of the District-officers has been drawn to the remarks of Government on this subject contained in Government Order, dated 28th July 1891, No. 678. The number of cattle grazed is given in the Southern Circle as 569,786 and the incidence per head is As. 1–10. The number of cattle has increased, and the rate per head fallen in comparison with the figures of the preceding year. Similar statistics have not been furnished for the Northern Circle. The omission should be supplied in future reports. The extent of area grazed over not having been reported, the average number of cattle per acre cannot be given. The order of Government requiring information to be given in the report regarding the extent of progress in grass-cutting and hay-making was received too late for the information to be furnished in the present report. The point should be borne in mind in submitting future reports. Attention has been called to the importance of this subject in the Government Order quoted above and Government has ordered experiments to be made in districts in which good fodder grass is available to see which of the two systems, viz., throwing open areas to grazing or keeping them closed and cutting and selling the grass, is more remunerative and more advantageous to the cattle of the neighbourhood.

There can, of course, be no question that to the forests themselves any system of cutting by hand whether it takes the shape of ensilage, hay-making, or simply carrying away the green grass, must be preferable to allowing the cattle in to graze for themselves: the difficulty lies in the presumably prohibitive cost of the former. No definite experiments, however, appear to have ever been actually carried through to test the truth of this presumption, and it may be that, taking other things into consideration, viz, the protection to seedlings and the consequent improvement of

the forest growth, the decreased liability to fire, if the cutting of the grass takes place early in the dry season, &c., it may be found that the cutting by hand is just as economical as grazing. As now ordered by Government, therefore, the matter should be fully tested in special localities selected by the Conservators.

9. *Police.*—The number and result of prosecutions for offences against Forest laws, as compared with those of the previous year, are shown below, and the figures may be accepted as generally satisfactory :—

	Cases pending.	New cases in the year	Convictions		Acquittals		Compounded		Withdrawn		Cases pending at the close of the year.
			Cases	Persons	Cases	Persons	Cases	Persons	Cases	Persons.	
Northern Circle.											
1889-90 ..	281	1,355	680	1,672	287	954	511	937	.		* 158
1890-91 ..	145	1,905	841	1,646	262	950	511	1,289		..	406
Southern Circle											
1889-90	207	2,679	904	2,157	385	1,308	1,187	2,750	92	246	318
1890-91 .	318	3,672	1,388	3,777	345	1,214	1,512	3,682	103	297	642

* In this figure 13 cases were included by mistake.

In both circles, the number of offences reported in 1890–91 is more than that in 1889–90, the percentage of convictions to the total number of offences is about 44 in the Northern and 38 in the Southern Circle against 50 and 33, respectively, in the previous year. Including cases compounded, the percentages are 72 and 79 against 88 and 78 respectively. The complaint of inadequacy of establishment as being the main cause of the insufficient protection will, it is hoped, be shortly removed.

As regards the Southern Circle, the increase in the number of offences occurs mainly in North and South Arcot, Trichinopoly, Tanjore and Coimbatore. The increase in North Arcot is attributed to the energy and activity of the District Forest-officer. In this district two important cases, in which certain old offenders were involved, led to convictions before the Sessions Judge and another wealthy merchant was fined heavily for removing produce without permit. The increase in South Arcot and Trichinopoly is chiefly the result of the detection of large herds of cattle found grazing in the reserves without permits. In Salem the large number of cases is attributed to the detection of illicit fellings carried on in Government forests with the connivance of the contractors of the adjoining private forests. In Tanjore a case of unlicensed shooting was met with a severe fine. In South Coimbatore there is a striking increase, which is attributed to the activity of the Range officers. The increase in the Northern Circle occurs chiefly in Vizagapatam, Godávari and Kistna. The cause of the increase in Vizagapatam is not reported. In Godávari the increase was in the Bhadráchalam agency, where a large number of cases of illicit fellings by the resident timber-dealers supplying the Rajahmundry market was detected. In Kistna the increase is chiefly in grazing without permit. The Conservator of the Northern Circle notes the large number of cases in Ganjam in which conviction was not secured. This is unsatisfactory, and as it must be either the fault of the Forest Department or the Magistracy, the Collector is requested to look into the records of the cases and take steps to amend matters. Protection in Ganjam, indeed, appears to be ineffectual, for the Conservator observes of this district also that the wholesale manner in which cases have been compounded has had a demoralizing effect as it has tended to encourage illicit removals. This, of course, is to be expected and must be guarded against: compounding is a convenience to both parties, and there is probably, therefore, a tendency to overdo it.

Looking generally into the statistics of offences, which vary considerably in different districts, the Conservator, Northern Circle, expresses a doubt as to whether the returning of a small number of offences is a necessary indication of efficient protection as he believes that generally only a small portion of the offences actually committed is ever reported. This may be the case, and in one instance, that of the Nílgiris, the District Forest-officer admits that it is: but if it is, it is clear that

the District officers have not been exercising sufficient supervision over the officials employed on protective and preventive duty.

10. *Natural reproduction.*—The remarks of the Conservators on this important subject are full and interesting. They establish the broad fact that, where protection is efficient both from fire and grazing, the natural growth is excellent; where it is not, the natural growth is poor: this fact, of course, is no new one, but it is consoling to be re-assured of it, and for the Forest officer to know that all that he has to do is to protect—and possibly direct by improvement cuttings—and that nature will do the rest: protection from *fire* is a mere matter of money and labour, but to combine protection from *grazing* with the necessities of the ryot and the grazier is more difficult. In some cases it will be possible to allot reserves either wholly for timber or wholly for grazing, and there the difficulty will not arise, but in the majority of the reserves grazing and small timber must go together and the reconciliation of the conflicting interests of the two is a matter that will tax the abilities of Forest officers. It is, in fact, the *crux* of forest work in this country.

One thing needs especial mention, and that is the "marvellous growth" in the Anantapur reserves, protected by walls, built, the Board believes, in the great famine. This, of course, only means effective protection, and it is a question for consideration if more should not be done in the way of fencing. The difficulty has been the matter of cost; but if railway lines can afford to be effectually fenced, there would seem to be no reason why forests should not, at any rate, where the forests lie in large compact blocks. Such fencing would assist most materially to protect both from fire and from thieves, and with protection from the latter, all the obnoxious transit rules could be abolished.

To take particular instances, in the Northern Circle, the Conservator mentions the case of the Peddapalle forest in Vizagapatam, which was under special protection for five years, as a striking instance of natural reproduction; in Kistna, the Bollapalli and the Kondapalli, the Kondávíd and Bellamkonda reserves are reported to contain good natural growth. In Nellore, in the Sríharikót forest, experiments were made to increase reproduction by cutting the roots of the *Eugenia jambolana* and the result is reported to be satisfactory, many shoots having come up. Experiments were also made in the felling of casuarina trees in Nellore and it was found that the best season for coppicing was from September to November and that the coppice was best when under shade and when the length of the stem left was not less than 1 feet. In Cuddapah, the growth of red sanders from seedlings is reported to have been successful; the ordinary bamboo seeded in most parts of Cuddapah and in the Nallamalais of Kurnool. In the Muchukota and Kothakota forests of Anantapur, which are specially protected by stone walls, the natural growth, as already stated, is said to be marvellous. In the Nílgiris, the reproduction in the sholas and the growth of coppice shoots in the *Eucalyptus* plantations are reported to be satisfactory.

As regards the Southern Circle, the reproduction from seed of bamboos in the Nágalápuram reserve in Chingleput, the germination of sandal wood seeds in Salem, the reproduction from coppice in the Sholakarai block in South Coimbatore, and the growth of kongoo seedlings in places, where clean cuttings have been made in the evergreen forests of Tinnevelly, are reported to be noteworthy. In the Tindivanam and Villupuram ranges in South Arcot, reproduction by coppice is said to have failed owing to the unfavorable character of the season; the coppice from casuarina stools in the Cuddalore range was also a failure. In North Arcot and Salem the growth in the open areas is said to have been very poor, chiefly owing to over-grazing In the mixed high forests of South Coimbatore, in several of the valleys and hill slopes in Madura and in parts of North Malabar, the unsuitable nature of the soil and the thick under-growth of grass and thorny shrubs have retarded natural reproduction. Mr. Porter is reported to be making careful experiments with regard to reproduction on the Anaimalais and the results should be set forth in the next report. With reference to the remarks of the Government of India on the report for 1889–90, the Board has recently requested Conservators to instruct District Forest-officers to maintain notes of their observations regarding the habits and wants of important species of trees, and the Board trusts that a continuous record will thus be formed, which will be found of use in framing the minor details of working plans in days of more scientific management than is the case at present.

11. *Artificial reproduction.*—The amount spent on topes, plantations and cultural operations is shown below:—

		Area.	Cost during the year.			Area.	Cost during the year.
		ACS.	RS			ACS	RS
Southern Circle..	Plantations ..	12,170	29,108	Northern Circle.	Plantations ..	7,689½	10,700
	Topes	18,891	7,586		Topes	6,898	2,380
	Other areas	4,378	2,148		Other areas ..	1,964½	4,686
	Total .	35,439	38,842		Total ..	16,552½	17,766

While the area in the Southern Circle was nearly the same in 1890–91 as in the previous year, the cost shows a large increase, chiefly under topes and plantations. The increase is attributed to the replanting of certain areas already included in previous returns and not shown as "added during the year" and to the cost of wire-fencing put around the Gundan shola which was included under plantations and the Kodaikánal shola which was shown under topes in the Madura district. In the Northern Circle, the area shows an increase, while the cost has fallen. In North Arcot the Conservator brought to notice that a number of topes borne on the books of the Forest Department are missing and it is believed that they have been alienated under darkhast rules. The matter has been referred to the Collector for inquiry. Both in North and South Arcot considerable areas were replanted with casuarinas; cultural operations have also received attention in these two districts and seeds were sown either broadcast or in patches; but the season was generally unfavorable. In Trichinopoly and Tanjore, the replanting of casuarina plantations was undertaken over considerable areas. In South Coimbatore the failure of the monsoon caused considerable damage to plants as well as seedlings. The plantation in the Gundan shola in Madura was extended by the addition of a few acres; in Tinnevelly the seeds of the *Acacia planifrons* were sown along with the agricultural crops, but the result was unsuccessful owing to the failure of the monsoon. The District Forest-officer considers that this combination of forestry with agriculture is worthy of further trial and points out that it has been very successfully tried in Tunis. In South Malabar, the planting of mahogany, teak and bamboo was continued. The *Swietenia mahogani* having been found to be subject to the attacks of the borer, it is being replaced by the *Swietenia macrophylla.*

In the Northern Circle, the date was successfully sown in Ganjam, the area under casuarina plantation in Godávari was increased, and Eucalyptus was newly planted. In Kistna casuarina and *Terminalia tomentosa* were planted; tamarind, margosa, soap-nut and other seeds were sown broadcast and 10,000 seedlings of *Eugenia jambolana* and *Terminalia tomentosa* are reported to have been planted on the Bezváda hill side. The casuarina seeds sown broadcast in the Nellore plantations germinated, but the seedlings are said to have perished for want of rain. The plants of *Melia Indica*, *Cassia auriculata* and *Albizzia amara*, the result of sowings in the previous year, are said to be thriving. There have been no plantations or cultural operations in Vizagapatam, Kurnool and Bellary; palmyras were sown in Cuddapah and Anantapur. In the Nílgiris, the sholas have been planted with various species of plants.

12. *Improvement fellings.*—The subject of improvement and restoration fellings has not been systematically treated in the Conservators' reports, although attention was prominently called to the defect in paragraph 13 of G.O., dated 24th November 1890, No. 957. The matter is an important one, for if protection is a *sine quâ non* for growth at all, improvement fellings are a *sine quâ non* for growth of any value. The Board is aware that Forest officers have so far had but little time to carry out works of improvement of any sort, but this stage is now being passed, and District Forest-officers should have the urgent need impressed on them for adopting some sort of fellings more scientific than the system under which the purchaser selects his own tree, and takes only so much of it, as he pleases. If departmental fellings cannot be undertaken all at once, something in the way of marking the trees to be felled by the permit-holders might, perhaps, be attempted.

In the Southern Circle in Tinnevelly in the *coupés* worked under the coppice with standard system, the whole growth was cut down flush with the ground and the stumps given a chance of reproducing shoots and the results are said to be very encouraging. In the Northern Circle, thinnings of bamboo clumps and the cutting back of badly-grown trees in Cuddapah and improvement thinnings in the Rámandrúg range in Bellary are mentioned among works of improvement.

13. *Exotics.*—The appendices to the Conservators' reports contain the results of experiments in exotics. Dates of different species were tried. They failed in some districts and flourished in others, so that the experiment is still inconclusive. The Conservator's reports do not give sufficient information as to the supposed causes of failure; this should be seen to in future reports; it is not sufficient to record the mere fact of failure. In some cases, it has been proposed to discontinue the experiment, but this should not be permitted: if particular localities are proved unsuitable, others should be tried; but the introduction of the edible date is too important a matter to be shelved merely because of a few failures. The Divi divi is growing well in North Arcot. The Eucalyptus is still a failure in the plains, through growing fairly at moderate elevations on the Tinnevelly ghâts. Of bamboos, there are numerous varieties; one sort (*D. longispathus*), obtained from Burma, was tried in Chingleput and was fairly successful. The species tried in North Malabar (*Dendrocalamus Brandisi*) is reported to be doing well. In South Canara, the sandy soil as well as the proximity of the casuarina proved unsuitable to the growth of *Bambusa longispathus*. The mahogany is being tried in Kistna, Chingleput, Madura, Tinnevelly, South Arcot, Cuddapah, North Arcot, Tanjore and North Malabar. In the four last districts the experiment has proved a failure. The sericultural experiment in Chingleput has not been financially successful, and the question of continuing it is under consideration; but it has hardly as yet had fair play in the matter of careful supervision and protection, and is still too young to be considered conclusive. Various kinds of exotics were tried in the Lovedale nursery in the Nílgiris; some of them failed altogether.

14. *Buildings and roads.*—The amount spent on roads, buildings, &c., is shown below:—

	Northern Circle.		Southern Circle	
	Actual expenditure.	Revised estimate	Actual expenditure	Revised estimate
	Rs	Rs.	Rs	Rs
Roads	9,020	15,200	21,390	23,000
Buildings	15,447	14,550	22,301	20,000
Other works	548	1,350	234	1,000
Total ..	25,015	31,100	43,925	44,000

The allotment in the Southern Circle was almost wholly utilized; but in the Northern Circle, though there is an improvement, as compared with the previous year, in the percentage of the actual expenditure to the budget allotment, the total amount spent in 1890–91 is very nearly the same as in 1889–90.

The principal road-works in the Southern Circle were—

1. The Tenmalai ghât road in South Arcot.
2. The road from Sobapanapuram to the rest-house on the hill in Trichinopoly.
3. The improvement and extension of the tramway line on the Anaimalai.
4. The completion of the Alagar Hill road in Madura.
5. The construction of several minor roads, bridle paths, inspection paths, &c., in Tinnevelly and Malabar.

The Conservator, Southern Circle, has furnished a detailed list of forest buildings, with cost and other particulars, though the list is said to be not complete. Most of the buildings are rest-houses, inspection sheds or offices or quarters for Range officers, &c. The two largest in the list are the buildings intended for the residence of the District Forest-officers of North and South Malabar, costing Rs. 12,377 and Rs. 13,469 respectively.

In the Northern Circle, the principal road-works were—

(1) Three new roads in Ganjam.

(2) Some incomplete roads in Vizagapatam.

(3) Two new roads, 6 and 7 miles long, in Godávari.

(4) Two roads in Kistna.

(5) Several minor roads in the Ceded districts and in the Nílgiris.

Several rest-houses were built in Ganjam, Godávari, Kistna, Bellary, Anantapur and Nílgiris and old buildings were repaired in other districts.

15. *Tramways.*—The only forest tramways are two lines in Nellore and one in North Arcot and one in Coimbatore. The comparative cost of the transport of wood by the tramway and by common cart is more correctly calculated than in last year, by taking the depreciation of plant at 6 per cent. and the interest at 4 per cent. on the capital cost. The rate in Nellore and North Arcot is given in terms of 1 ton per mile, while in South Coimbatore it is given in terms of 1 cubic foot per mile. In all the districts the cost by tramway shows a saving; in North Arcot and Coimbatore it is very small; but, as pointed out by the Government of India in its review of the report for 1889–90, there are considerations which cannot be taken exactly into account in figured calculations, but which, nevertheless, are most material in comparing the results of the working by tramway with that by country carts. The District Forest-officers, North Arcot and Coimbatore, mention the following points:—

(1) The quantity removed by means of the tramway is much greater than that by country carts.

(2) The tramway enables the department to fell and remove even inferior classes of wood which could not be removed without loss by country carts.

(3) If the tramway line had been extended further, the profit would have been greater.

(4) The working plan does not allow of full use being made of the working capability of the line.

(5) Risk of loss, as in the case of advances to cartmen, has been removed.

(6) The difficulty of procuring carts at particular seasons has been obviated.

(7) The removal of produce is assured, Government being independent of cartmen who might strike or ask higher rates.

These may be summed up generally by saying that the tramway has the advantage of ease, convenience and control, and, in workings of any size, economy.

16. *Yield and working.*—The subjoined statement shows the outturn for the year:—

		Timber including sandalwood.	Fuel	Bamboos	Minor produce.
		C FT	C FT	NO	VALUE IN RS
By Government Agency	Northern Circle	183,296½	1,211,946	137,095	9,756
	Southern ,,	153,815	900,366	42,478	54,362
By purchasers	Northern ,,	1,940,581	4,201,280	11,941,448	2,50,676
	Southern ,,	1,484,128	5,854 223	6,066,459	3,42,815
By free grants	Northern ,,	30,046	.	14,310	588
	Southern ,,	10,628	400	21,657	114
Total	Northern ,,	2,153,926½	5,413,226	12,092,853	2,61,020
	Southern ,,	1,648,571	6,754,989	6,130,594	3,97,291

The information required in paragraph 8 of Government Order, dated 28th July 1891, No. 678, regarding the cause of the low price of timber and fuel has not been furnished in the Conservators' reports, the Government Order having been communicated too late. Conservators have, however, since reported that the price shown is mainly that of the lower class timbers and fuel, and that the amount of good timber included is small, the public demand being met chiefly by imported Burmah woods: for the lower class timbers and fuel the prices are low, because they represent merely the seigniorage rates, which for such produce are advisedly, in the interests of agriculturists and of the poorer ryots, kept low. The matter is one, however, which requires further investigation on the lines suggested by the Government of India; for, though it would be extremely inadvisable to raise the price of fuel and agricultural timber,

the prices quoted, viz., 9 pies gross and 4 pies net per cubic foot, are assuredly not the rates at which the ryot can obtain even fuel, much less timber of anything like good quality.

The outturn of timber under departmental operations shows a decrease in the Southern Circle. The decrease occurred chiefly in North Arcot, where the demand for redwood was slack; in South Coimbatore, where the stock of previous years remained unsold; in South Arcot, where the removal of timber was made by purchasers under the contract system; and in Madura, where felling operations had to be restricted with reference to the large imports from Travancore on one side and from Coimbatore and Pálghat on the other. There was an increase under fuel chiefly due to the large demand by the South Indian Railway Company in South Arcot and by the cotton mill companies in Tinnevelly, as well as to extensive fellings under preliminary working plans in Madura and under the coupe system in Tinnevelly. The increase under bamboos is due to the large number collected departmentally in Madura and South Malabar. The increase in the value of minor produce is chiefly in South Canara where more valuable species were collected and in South Coimbatore where the Range-officer is reported to have shown great zeal and energy in the work.

In the Northern Circle, there has been an increase under each of the items, timber, fuel, bamboos and minor produce, collected by departmental agency. The increase in timber occurred chiefly in Godávari, Cuddapah and Nílgiris; that in fuel was in Godávari, Nellore, Cuddapah, Kurnool and Anantapur; in bamboos, the increase occurred in Kistna and Anantapur; and that in minor produce, in Ganjam and Nellore. The receipts from departmental work were highest in South Coimbatore (Rs. 55,500), South Canara (Rs. 46,500), Kurnool (Rs. 44,300), South Malabar (Rs. 43,300) and North Arcot (Rs. 41,900). The value of stock on hand at the end of the year was Rs. 56,480 in the Southern and Rs. 28,255 in the Northern Circle.

The receipts from removals by private agency amounted to Rs. 7,61,709 in the Southern Circle and Rs. 5,66,915 in the Northern, against Rs. 6,96,965 and Rs. 4,69,363, respectively. The increase in the Southern Circle is chiefly under bamboos and minor produce. Under timber there was a decrease both in quantity and value, which the Conservator attributes to the gradual abolition of the seigniorage system in favour of departmental cutting. The increase under minor produce is said to be mainly due to the transfer of certain items of tree rents from Land Revenue Miscellaneous to Forests in the Chingleput, Salem and Trichinopoly districts. The question of crediting tree rents in Salem will be separately submitted to Government. The increase in the Northern Circle occurs under all the sub-heads and in all the districts except in Cuddapah and Nílgiris. The increase has not been explained. The chief revenue-producing districts under private agency were North Arcot (Rs. 1,55,000), Salem (Rs. 1,44,000), Cuddapah (Rs. 1,13,000), Godávari (Rs. 1,10,000) and Kistna (Rs. 1,01,000).

The total yield in 1890–91 is compared with those of the three previous years in the annexed statement:—

	Northern Circle			Southern Circle		
	Timber and fuel	Bamboos	Minor produce	Timber and fuel	Bamboos.	Minor produce
	C. FT.	NO	RS	C. FT	NO.	RS
1887–88	7,775,639	9,087,693	1,24,277	7,677,600	Not known	2,60,661
1888–89	8,935,990	4,888,271	1,28,105	9,732,988	6,220,090	2,79,884
1889–90	6,996,159½	7,178,663	2,26,386	9,760,821	5,515,518	3,11,245
1890–91	7,567,152½	12,092,853	2,61,020	8,103,560	6,130,594	3,97,291

The average cost, as given by the Conservators, of departmentally-collected produce varies very widely in the two Circles. In the case of timber, it cost annas 4 pies 3 per cubic foot in the Southern Circle, but only 2 annas in the Northern Circle; firewood cost 6 pies per cubic foot in the Southern and 8 pies in the Northern Circle; and bamboos, each 4 pies against 1 pie. The prices realized from the different kinds of produce exhibit similar differences. Timber fetched annas 10 pies 4 in the Southern Circle, but only annas 3 pies 7 in the Northern; fuel, anna 1 pies 4 against anna 1

pies 2; and bamboos, anna 1 pies 2 against only 3 pies. In the case of produce removed by private agency, the average cost was anna 1 pies 6 against anna 1 pies 4 for timber; pies 6 against pies 4 for fuel; and pies 3 against pie 1 for bamboo.

In calculating the cost of produce, no allowance has been made by Conservators for the proportion of the cost of the B. or permanent establishment charges to be debited on account of supervision. In a subsequent communication, however, they have recommended that this proportion should be that which the receipts *plus* the (A) expenditure under each *particular head* bears to the total receipts *plus* the (A) expenditure *under all heads*; this proportion seems fair, for, ordinarily, the (B) or general establishment charges may be considered divisible rateably among the receipts, and the extra share debitable to work done departmentally may be considered as sufficiently represented by the actual expenditure thereon under A; it may be suggested that the revenue from timber, &c., worked other than departmentally is too heavily weighted by this method, but it must be remembered that though the actual expenditure shown under A under that head is generally small, yet the real cost on account of general supervision is large, for the large establishments of guards, watchers, permit issuers and tannadars have to be entertained mainly to meet the requirements of this particular system of working, and are not nearly so necessary under the system of departmental working; the B charges may, therefore, fairly be divided rateably among the various heads on the basis of the sum of the receipts and the A expenditure thereunder. Adopting this proportion the Board has worked out the net profit under the two systems as follows:—

Items.	Southern Circle.						
	Quantity sold. (Form 71.)	Amount of sale-proceeds. (Form 71.)	Charges.			Net profit.	Rate of net profit (column 7 ÷ column 2).
			A. (Form 64.)	B	Total.		
1	2	3	4	5	6	7	8
Departmental working.		Rs.	Rs.	Rs.	Rs.	Rs.	Rs. A. P.
Timber and fuel in .. C. ft.	1,002,268	1,88,405	68,438	57,374	1,25,812	62,593	0 1 0
Bamboos .. .. No.	40,429	3,069	985	934	1,919	1,150	0 0 5
Sandalwood .. .. C. ft.	2,899	19,040	1,082	4,142	5,224	13,816	5 1 11
Minor produce in .. Mds.	22,749	54,362	28,760	19,272	48,032	6,330	0 4 5
Private working.							
Timber and fuel in .. C. ft.	7,314,045	3,26,331	19,285	79,456	98,741	2,27,590	0 0 5
Bamboos .. .. No.	6,044,381	93,010	5,535	22,802	28,337	64,673	0 0 2
Grazing	Not reported.	69,123	4,064	16,746	20,810	48,313	Not known.
Minor produce	Do.	2,73,245	16,063	66,182	82,245	1,91,000	Do.

Items.	Northern Circle.						
	Quantity sold.	Amount of sale-proceeds.	Charges.			Net profit.	Rate of net profit (column 14 ÷ column 9)
			A.	B.	Total.		
	9	10	11	12	13	14	15
Departmental working.		Rs.	Rs.	Rs.	Rs.	Rs.	Rs. A. P.
Timber and fuel in .. C. ft.	1,344,814	1,29,209	75,667	53,362	1,29,029	180	0 0 0·002
Bamboos .. .. No.	86,545	1,803	650	612	1,262	541	0 0 1
Sandalwood .. .. C. ft.	1,214	11,229	1,574	3,201	4,775	6,454	5 5 0
Minor produce in .. Mds.	17,106	9,756	5,833	4,180	10,013	— 257	—0 0 2·9
Private working.							
Timber and fuel in .. C. ft.	6,110,534	2,41,988	14,106	63,994	78,100	1,63,888	0 0 5
Bamboos .. .. No.	11,935,284	72,924	4,253	19,294	23,547	49,377	0 0 1
Grazing	Not reported.	82,775	4,738	21,502	26,240	56,535	Not know.
Minor produce	Do.	1,69,228	9,794	44,427	54,221	1,15,007	Do.

Note.—The figures under private working in columns 4 and 11 were arrived at by distributing the lump figure under A-11 among the several sub-heads in proportion to the receipts under each sub-head.

It will be seen that as regards timber and fuel and bamboos, the departmental working is the more profitable in the Southern Circle, but not in the Northern, even after deducting the proportionate cost of the permanent establishment. There are no data available for comparing departmental with private working as regards grazing and minor produce.

17. *Financial results.*—The following abstract shows the financial results of the year:—

	Receipts	Expenditure.	
		A	B
	Rs	Rs.	Rs.
Northern Circle ..	7,45,547	2,43,096	2,48,459
Southern ,, ..	10,49,861	4,20,728	3,41,001
Total ..	17,95,408	6,63,824	5,89,460
		12,53,284	
Balance .		5,42,124	

The revenue shows a large increase in both Circles, as compared with the figures of the preceding year; while the expenditure, though it has also risen, does not exhibit such striking differences. The increase under revenue in the Northern Circle is attributed to the receipt of revenue from the Rampa forests which were brought under the control of the department during the year; to the transfer of certain items from Land Revenue to Forests in Kistna; to the sale of a large quantity of railway fuel in Kurnool and of sandalwood in the Nílgiris; and to increased receipts from minor produce in all the districts except Cuddapah. The increase in the Southern Circle is chiefly under I (*e*) and II (*e*), Minor produce removed by Government and by private purchasers; the former mainly in South Coimbatore and South Canara, and the latter in North Arcot, Chingleput, Salem and Trichinopoly.

Compared with the revised estimates, the actuals were 8 per cent. more under receipts and 1 per cent. less under charges in the Southern Circle, and 11 per cent. more under receipts and 3 per cent. less under charges in the Northern Circle.

The revenue realized is the highest on record and the surplus has exceeded 5 lakhs—a result which is unprecedented. The districts that contributed most to the surplus are, North Arcot (Rs. 1,38,000), Salem (Rs. 96,000), Kurnool (Rs. 88,000), Godávari (Rs. 75,000), Kistna and Cuddapah (Rs. 70,000 each). The only district where a deficit occurred in the Southern Circle was Madura (Rs. 8,000); in the Northern Circle deficits occurred in Ganjam (Rs. 14,000) and Nílgiris (Rs. 16,000) as in last year and in Vizagapatam (Rs. 1,000). The districts that produced the largest revenue are North Arcot (Rs. 2,01,000), Salem (Rs. 1,54,000), Kurnool (Rs. 1,44,000), Cuddapah (Rs. 1,35,000), Godávari (Rs. 1,22,000), Kistna (Rs. 1,03,000), South Coimbatore (Rs. 1,03,000) and North Coimbatore (Rs. 1,01,000).

General Remarks.

18. The year appears to have been a normal one, with the usual amount of sickness inseparable from forest life, and of misconduct on the part of subordinates to be expected from the many opportunities offered by forest work. At the same time, the report of the year's operations and their financial results bear testimony to the good work done by the District officers, and show that under all the disadvantages of want of men and the confusion caused by simultaneous settlement work, District officers are making good steps forward in the organization and exploitation of their district forests. Three things, however, remain to be done: settlement must be completed, strong and sufficient establishments must be placed in each district, and real progress must be made in the direction of conservancy and improvement. Till settlement is complete and till the District officer knows what area is his to deal with, there must be confusion, which must impair control; the Board has it in consideration, as already stated, to remedy this by concentrating settlement work. Strong establishments based on the present requirements of each district have recently been sanctioned by Government; it only remains for district officers to proceed vigorously with their real forest work. Such work has hitherto

taken too much the shape of a mere toll-bar placed between the ryot and the forests, but little has been done in the way of either improving or cheapening the supply of forest produce to the villager, and it is not to be wondered at, therefore, if the department is not popular; what is wanted is not the mere collection of revenue, but the spending of that revenue in the improvement and cheapening of forest produce of all kinds, so that the villager may visibly see that he is getting something in return for the restrictions and inconveniences which are placed upon him. This is a matter of such importance, not only to the Forest Department, but even to the State, that the Board feels bound to lay stress on it. In a recent inspection report, Colonel Walker reported that efforts were being made to sell departmentally-cut fuel and timber to the ryots, at specially low prices on the borders of the forest. This is a practical step in the right direction, and the Board would like to see the same idea carried out elsewhere. The Forest Department cannot be said to be a complete success until the villagers have realized the great value of its operations to themselves.

(A true Copy and Extract.)

(Signed) H. A. SIM,
Acting Secretary.

To the Secretary to Government, Revenue Department, with two reports.
" Conservator of Forests, Southern Circle.
" " Northern "
Copy to the Collectors of all the Districts, except Madras.
" " Examiner of Forest Accounts.

READ—also Proceedings of the Board of Revenue (Land Revenue), dated 17th November 1891, Forest No. 470.

ABSTRACT.—Submitting letter from the Conservator of Forests, Northern Circle, explaining certain discrepancies pointed out by the Board in the Administration Report of the Northern Circle for 1890–91.

Order—dated 12th December 1891, No. 1187, Revenue.

Forest, No. 261.

The Board's review of the operations of the Forest Department during 1890–91, which is submitted with the Proceedings read above, was received in the Government office on October 22, or nearly two months after the prescribed date. Arrangements have been made for the compilation in future years of a consolidated report for the whole Presidency in the Board's office, in lieu of the circle reports now separately prepared, and the Government trusts that, under this system, it will be found possible to observe greater punctuality. Moreover, the Forest establishment in the Board's office has recently been considerably strengthened and this should expedite the disposal of work.

2. *Area of forests.*—The extent of the various classes of forest under control of the department and the changes that have taken place during the year are shown in the table at paragraph 3 of the Board's review under three heads, viz., "reserved forests," "reserved lands," and "other forests." The areas shown in form 59 B, which is only given in the Northern Circle report, have been entered under "other forests." They are reported to be lands in the Cuddapah district reserved under orders issued prior to the passing of the Forest Act, and it is not understood why they have not been subsequently notified under section 25 of the Act, or proposed for formal reservation under section 4. In March 1883, Mr. Gamble explained, with reference to certain forests in Cuddapah, which were said to have been previously reserved, that the latter course was the safer and better of the two, in that it was not

clear whether a proper enquiry had been instituted into the rights and privileges of neighbouring villagers prior to reservation. Notifications under section 4 of the Act were accordingly issued for many of these forests, and the ordinary settlement procedure adopted. Early steps should now be taken to formally reserve the areas shown in form 59 B.

3. There is some doubt as to the entries in form 59 D under "other forests." In the Northern Circle it is stated that they relate to lands reserved under the orders of the Collector and exist only in Vizagapatam. If this is the case, the figures should be transferred to form 59 C, which shows the details of "reserved lands." It is observed that extensive areas in the Cuddapah district, reserved under notices issued by the Collector, are shown in this latter return. In the Southern Circle "reserved lands" are apparently taken to mean areas notified under section 4 of the Act, and "other forests" represent lands taken up under other orders. The additions during the year to the latter class of forest are said to be due to new areas selected in the Madura district for reservation, though it is not stated how these have been brought under control.

4. The absence of uniformity in these returns is to be regretted, but in future years a consolidated report for the whole Presidency will be prepared in the Board's office, and this fault will not therefore recur. Moreover, under the new forest policy, all lands taken up for reservation are eventually to be classed under the head of "reserved forests." and the confusion arising from the numerous divisions previously made will thus be obviated. This policy cannot, however, be fully developed for some time, and in the meanwhile it is desirable that the returns should, as far as possible, be simplified, and all areas under control should accordingly be shown under the head of "reserved forests" or "reserved lands."

5. In reviewing last year's reports, the Government remarked that the forest figures for each district should be compared with the areas at the disposal of Government, rather than with the cultivated areas. The second statement given in paragraph 3 of the Board's Proceedings complies with these instructions, though the headings of columns 4 and 8 convey the impression that they have been neglected. The statement in question rightly compares the areas under control with the aggregate of uncultivated areas, forests, and areas for which returns are not available. The Board fears that the selection of blocks for reservation on the lines newly laid down has not yet been taken up with energy, owing to the paucity of officers. This defect will shortly be remedied, for, under the scheme for increasing the superior staff, which has recently received the sanction of the Secretary of State, the department is to be allowed 34 officers on the upper controlling staff, besides 11 extra Assistant Conservators. The service is to be divided into an Imperial and a Provincial branch, and rules for regulating appointments to the latter have been issued by the Government of India. The want of officers should not, therefore, be a cause of complaint in the future, though the full sanctioned strength cannot of course be worked up to immediately.

6. *Settlement.*—The total area gazetted during the year as reserved forest exceeded that similarly notified in any previous year as shown below :—

—	1883–84.	1884–85.	1885–86	1886–87.	1887–88	1888–89.	1889–90.	1890–91.	Total.
Northern Circle	..	7	95	372	151	6	194	* 1,014	1,839
Southern ,, ...	725	388	413	312	564	398	113	360	3,273
Total ..	725	395	508	684	715	404	307	1,374	5,112

* This is the net value of the additions : 10 square miles were excluded in Vizagapatam owing to revised estimate of area.

In so far as this implies more speedy progress towards the completion of Forest Settlement, it gives ground for satisfaction. But it must be remembered that the area so notified is no criterion of the settlement actually performed during the year, and the Board admits that the progress of this work leaves much to be desired. Full information is, however, again not furnished in regard to the work of Forest Settlement-officers. In paragraph 8 of the Board's review of 1889–90, Conservators were

directed to show in future reports the particular stages reached in the numerous blocks remaining unsettled at the close of the year. An attempt has been made in the report of the Southern Circle to comply with these instructions, but no such information is given for the Northern Circle. It is therefore impossible to gauge the work done by the various officers, and the Government notes that the Board promises to submit a separate report on this subject as soon as the necessary information is supplied by the Conservators.

The statement given at paragraph 4 of the Board's Proceedings is in the form prescribed by this Government and approved by the Government of India. It purports to show the progress made during the year in forest settlements, but hardly fulfils this object. It is observed that the entries in columns 4 and 9 are identical, while the figures shown in column 3 as "additions during the year" apparently represent deductions due to the afforestation of unreserved lands and to rectification of areas. In future reports, column 3 should be kept for actual additions and column 4 may be omitted. The areas notified under section 4 during the year and the deductions due to improved registration should then be subtracted from the total of columns 2 and 3, and the result be shown in column 9 as the total unreserved area at the close of the year.

7. Judging from the returns now submitted, the Government is forced to the conclusion that the settlement is being needlessly delayed in several districts. In Ganjam and Vizagapatam the tardy progress is the result of entrusting the settlement to the ordinary district revenue staff whose more legitimate duties prevent them from devoting the requisite time and labour to this special work, and the Board should consider whether it would not be advisable to depute one of the four special officers to these northern districts. The delay in Anantapur and the Nílgiris is due to similar causes. In the latter district indeed it has recently been brought to notice that the work actually completed is of so unsatisfactory a nature that it will have, in several instances, to be thoroughly revised and a report on the subject has been called for. The delay in Cuddapah is serious, and the Government does not understand why the Board contemplates still further retarding the settlement, by awaiting the notification of the additional areas to be taken up under the policy enunciated in G.O., No. 844, dated 29th October 1890. It would be better to gazette at once as reserved forests all those areas in which settlement has been completed, and to notify subsequently as extensions such blocks as are required to form compact reserves. It is observed that eight blocks with an aggregate area of 31 square miles have been notified in this district since the close of the year.

In the Southern Circle the balance is heavy in North Coimbatore, and although the Board declares that the figures call for remark, no explanation of them is given. Of the 1,159 square miles in this district notified under section 4 of the Act, but remaining unsettled, notifications for three blocks with an aggregate area of 377 square miles appear to be pending in the Board's office.

8. When reviewing the forest administration reports of the various provinces for 1889–90, the Inspector-General of Forests declared that the treatment of these settlements as purely judicial proceedings was, in his opinion, unquestionably the intention and correct interpretation of the forest law, and was productive of the most stable and satisfactory results. In this view the Government concurs, and is glad to learn that the Inspector-General considers the Madras Forest Settlements to be the most perfect of any in India. It must, however, be remembered that the great delay in completing the work entails a heavy charge upon the State, and His Excellency in Council trusts that the arrangements now being made by the Board will render more rapid progress possible in the future. At the suggestion of the Government of India a special report has been called for regarding the causes of this delay. It may at the same time be noted that of the 1,600 square miles remaining unsettled in the Kurnool district at the close of 1889–90, to which areas the Government of India drew special attention in its review of the year's operations, 242 square miles were gazetted as reserved forests during 1890–91, while an additional area of 820 square miles has since been so notified. The development of the policy of meeting the requirements of the agricultural population from reserved forests and of abolishing all other classes of reserves will, however, tend to postpone the termination of the settlement, and it has been declared that the work will probably occupy at least three years more. The sanction of the Secretary of State has been requested for the retention of the special establishments until March 31, 1893, when a more reliable estimate of the areas remaining for

settlement will be furnished, and the Government of India, in strongly supporting this request, has intimated its unqualified approval of the course adopted by this Government.

9. *Demarcation.*—Detailed figures of the demarcation completed during the year are given for the Northern Circle only, and the Southern Circle Conservator explains his failure to comply with the instructions contained in the last year's review by stating that the particulars received from District Forest-officers are incomplete and inaccurate. It is to be regretted that proper steps were not taken to obtain the required information, and the Government trusts that full details will be furnished in future years. It is observed that the Board has under consideration proposals for prescribing a uniform set of rules to guide District Forest-officers in the methods of demarcation to be adopted. The average cost per running mile, according to the figures given in paragraph 5 of the Board's Proceedings, was less than in the previous year in the Northern Circle, and greater in the Southern Circle. In the former circle, however, the rate (Rs. 9–9–0) is calculated on the permanent demarcation only, while in the Southern Circle the cost represents the whole expenditure on demarcation during the year, and the figures of outturn (wrongly shown in the Board's Proceedings as 1,531 instead of 1,631) on which the average rate has been struck, are presumably those for all kinds of work, viz., preliminary and permanent demarcation, reclearing old lines, fencing or ditching, and erecting boundary marks. The comparison is not therefore a fair one. Taking the full amount of demarcation of all sorts done in each circle during the year and calculating on the figures of cost shown in the audited accounts, the average rate for the Presidency comes to a little more than Rs. 11 per running mile. This can doubtless, under systematic management, be reduced, and the charges for reclearing old lines and revising the original demarcation should certainly be curtailed. It was unnecessary for the Northern Circle Conservator to reproduce in his remarks against each district the figures already given in abstract G of his report. Repetition of this sort should be avoided. The areas of forests demarcated in the Northern Circle shown in abstract F differ very materially from those recorded in G.O., No. 806, dated 15th October 1890, and it is feared that in neither case can these statistics be regarded as reliable. The cause of this variation should have been reported.

10. *Surveys.*—The Government is glad to observe that the outturn obtained by the Government of India Survey Party during the survey year 1890–91 showed a considerable increase on the figures of previous seasons, while the average rate was materially reduced. In calculating the average cost per square mile in last year's review, account was not taken of the advance work done in the shape of triangulation and traversing, and Colonel McCullagh explains in his report read in G.O., No. 852, dated 9th September 1891, which is printed at the head of the present Proceedings, that the actual rates were Rs. 162 and Rs. 148 for the years 1888–89 and 1889–90, respectively. The rate has now been reduced to Rs. 111 per square mile, but is still in excess of the average charge (Rs. 80) incurred on similar work in the Bengal Presidency. The Government trusts that the arrangements made by the Board in consultation with the Survey officers for facilitating the work of Colonel McCullagh's party will tend to reduce its cost. The Government of India has recently agreed to bear one-third of the charges for all work completed after the commencement of the current financial year.

11. The expenditure on departmental surveys during the last two years is shown in the margin. The Conservator, Southern Circle, has again wrongly included in the figure for his circle a sum of Rs. 6,171 spent upon line clearing. It was ordered in last year's review that items of this nature should be shown under "demarcation," and the Government desires that these instructions should be duly complied with in future. It is presumed that the above charges were chiefly incurred in the preparation of plans for Forest Settlement purposes. The remarks of the Conservator, Northern Circle, on this subject have not been noticed by the Board. Mr. Hooper considers that the cost of settlement is needlessly enhanced by these preliminary surveys, as the boundaries originally proposed are frequently deviated from at the

	1889–90.	1890 91
	Rs.	Rs.
Northern Circle	3,743	4,782
Southern „	6,083	10,249
Total ..	9,826	15,031

time of settlement. The charges on this account should be kept as low as possible, but the Government does not consider that they can be altogether avoided. It is a matter of great importance that the Forest Settlement-officer, when perambulating the proposed reserve, should be in possession of an outline survey plan showing the boundaries as demarcated or naturally defined, and the Board has recently made arrangements, in conjunction with the Superintendent of Revenue Survey, for the preparation of these maps. The Revenue Survey Department is employed on the final survey of forest areas in Bellary and Anantapur, and orders have been issued directing the Superintendent to complete the work in these districts.

12. *Working plans.*—But little progress appears to have been made during the year in the preparation of working plans, or in the scientific management of the forests on plans already formed. As explained in the reports of last year, the weakness of the district establishments accounts for this defect, and the increase lately sanctioned to the superior staff, as well as that proposed for the subordinate staff, will in time doubtless effect the necessary remedy.

13. *Fire protection.*—The subjoined statement shows the areas protected and the rate per square mile during the last six years:—

	Areas attempted to be protected (in square miles).					
	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.	1890-91.
Northern Circle	728	1,168	1,320	1,667	2,700	2,883
Southern ,, ...	906	1,081	1,250	1,502	1,910	2,045
Total ..	1,634	2,249	2,570	3,169	4,610	4,928

	Rate per square mile (in rupees).					
	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.	1890-91
Northern Circle	9 10	10·16	10·95	8·53	6·13	7·17
Southern ,, ...	12·67	15·54	16·57	13·53	10·57	11·01
Total .	11·08	12·75	13·70	10·81	7·97	8 41

The increase in the rates of the Southern Circle is said to be due to the exceptional drought experienced during the year, and the corresponding rise in the Northern Circle is probably due to the same cause. It is to be regretted that it was not found possible to extend the area of special protection in Salem and North Coimbatore as suggested in last year's review. The Government fully agrees with the Board's remarks regarding the separation of the charges incurred on special protection from those connected with unburnt but unprotected blocks. In the Southern Circle details of fire-traced areas are given, but the expenditure thereon is not separately shown. The subject should be dealt with, as the Board suggests, in connection with the question of prescribing forms for the apportionment to each working circle of its share of the capital expenditure incurred on forest organization. The Board has recently issued instructions, which have been approved by Government, for the allotment to their proper heads of all charges incurred on survey, demarcation and protection, but has pointed out that the settlement charges cannot be so apportioned, on account of the extensive areas dealt with by each Forest Settlement-officer. The *number of cases of incendiarism brought into court was again larger in the Southern Circle than in the Northern, though the percentage of protection was better in the former circle.

	1889-90.	1890-91.
* Northern Circle	16	14
Southern ,, ...	34	37
Total ...	50	51

14. *Forest offences.*—In recent years the constant complaint has been that protection was inadequate owing to the insufficiency of the subordinate staff. Proposals for a considerable increase to these establishments have now been submitted for the approval of the Government of India, and as the Board points out, this cause of

complaint should shortly be removed. The Government notices with regret that the remarks made in last year's review regarding the method of calculating percentages of acquittals and of cases compounded have been overlooked. The instructions on this head have indeed been observed by the Conservator, Southern Circle, but in the Northern Circle acquittals are again wrongly compared with the total number of cases disposed of, instead of with the cases actually taken into court. The Board also has overlooked the above orders. The following table gives the figures for the last two years:—

—	Cases pending	New cases.	Cases disposed of.	Cases taken into court	Cases compounded.	Percentage of cases compounded to cases disposed of	Percentage of acquittals to total number of cases taken into court
Northern Circle .. 1889-90 ..	281	1,355	1,478	967	511	35	30
Northern Circle .. 1890 91 ..	145	1,905	1,644	1,103	541	33	24
Southern Circle .. 1889-90 ..	207	2,679	2,568	1,381	1,187	46	28
Southern Circle .. 1890-91 ..	318	3,672	3,348	1,836	1,512	45	19
Total .. 1889-90 ..	488	4,034	4,046	2,348	1,698	42	29
Total .. 1890-91 ..	463	5,577	4,992	2,939	2,053	41	21

The above figures show that more cases of offences against the forest laws were brought to light than in the previous year. The increase appears, however, to be due to better protection and the Government notices with pleasure the testimony borne by the Collector of North Arcot to the good work done in this respect by his District Forest-officer, Mr. Marshall. The decrease in the percentages of acquittals is satisfactory. In regard to the compounding of offences, the Government agrees with the Board that this procedure must not be allowed to encourage the commission of offences, but in cases where the evidence is hardly strong enough to secure a conviction, it is better to compound than to run the risk of an acquittal. This view of the matter was put forward by the Board in reviewing the reports of 1887–88 and should be carefully borne in mind by District officers.

15. *Grazing.*—There was again an increase in the receipts from grazing and the sale of fodder grass, the total revenue from this source being Rs. 1,50,015 as compared with Rs. 1,43,845 in the previous year. It is unsatisfactory that full information is not given regarding the area available for free grazing and that closed to grazing in each district. Conservators were called upon, so far back as March 1890, to collect statistics on this head, and should have taken steps to obtain the necessary information from District Forest-officers. The progress made in grass-cutting and hay-making has not been reported. The number of cattle grazed is only given for the Southern Circle. The Government regrets to observe that the statistics of grazing generally are so imperfect, and trusts that due care will be taken in future to submit full information. The results of the experiments ordered to be made to test the efficacy of the various methods of dealing with fodder reserves and pasture grounds will be awaited with interest. The development of the growth of good grasses and their systematic cultivation in the forests is a matter of the very highest importance, and the Government is inclined to agree with the Conservator, Southern Circle, in thinking that it is not always advisable to throw open the reserves to free grazing in seasons of drought. It is not incumbent upon Government to provide pasturage for an unlimited number of cattle. The agricultural cattle are recognised as possessing the first claim to consideration, and for them the reserves must if necessary be fully utilized; but a large number of the remaining animals are useless for any purpose except for manure, and a curtailment of their numbers by judicious restrictions upon grazing is perhaps not subject for regret.

16. *Reproduction.*—His Excellency in Council has perused with much interest the remarks of the Conservators on this subject and the Board's review thereof. It is most satisfactory that experience proves natural growth in this country to be good provided that protection is efficient, and as the Board points out, it is a problem of the greatest importance to secure the latter, while at the same time affording the neighbouring

population with the requisite supplies of fuel and fodder from the forests. The Government observes that instructions have been issued to Forest-officers to record observations regarding the habits and wants of important species of trees as suggested by the Government of India in its review of last year's reports.

The following table compares the statistics of plantations and cultural operations for the last two years :—

		Area in acres.		Cost in rupees during the year	
		On 1st April 1890	On 31st March 1891.	1889-90	1890-91
Northern Circle	Plantations	7,520	7,389	13,079	10,700
	Topes	6,855	6,898	2,125	2,380
	Cultural operations	1,171	1,565	2,941	4,686
	Total	15,546	16,552	19,045	17,766
Southern Circle	Plantations	12,044	12,170	25,613	29,108
	Topes	18,888	18,891	4,741	7,586
	Cultural operations	1,203	4,378	2,302	2,148
	Total	35,135	36,439	32,656	38,842
	Grand Total	50,681	51,991	51,701	56,608

The variations are not large, with the exception of the increased outlay in the Southern Circle, which is said to be due to extensive replanting operations and to the cost of fencing with wire a reserve in the Madura district. The results of the experiment which is to be repeated during the current year, of planting the *Acacia planifrons* with agricultural crops, will be awaited with interest. The Government notices with regret that Conservators have again failed to pay proper attention in their reports to the important subject of improvement fellings, and the Board's remarks in paragraph 12 of its review should be carefully borne in mind. The details of experiments with exotics given in appendix C to the Southern Circle report are full and interesting: in the Northern Circle the subject does not appear to have received so much attention. The Government agrees with the Board's remarks regarding the experiments with the date palm.

17. *Communications and buildings.*—The desirability of a judicious annual outlay on roads and buildings with a view to the proper development of the forests was recognised by the Government of India in its review of last year's operations. The expenditure under this head for the last two years is shown below. It is satisfactory that the allotment in the Southern Circle was almost wholly utilized :—

	Northern Circle		Southern Circle		Total	
	1889-90	1890-91	1889-90	1890-91	1889-90.	1890-91.
	Rs	Rs	Rs.	Rs.	Rs.	Rs.
Roads	9,752	9,020	17,839	21,390	27,591	30,410
Buildings	13,422	15,447	17,652	22,301	31,074	37,748
Other works	826	548	446	234	1,272	782
Total	24,000	25,015	35,937	43,925	59,937	68,940

The total expenditure exceeded that of the previous year, but its percentage to the gross revenue (3·8) was exactly the same. As remarked by the Inspector-General of Forests in his annual review of last year, it is false economy to stint money on opening out the forests, when once the rights which burden them have been finally settled, and the Government does not consider that the present outlay is sufficient for the purpose in question. The time of District Forest-officers is, however, doubtless greatly taken up by the work of settlement and selection, and will be for some time to come.

18. *Tramways.*—The Conservators have this year furnished fuller particulars in regard to the working of the forest tramways, and the figures given prove the superiority of this form of transport over the ordinary country carts in workings of any size.

The other advantages of the former system are detailed in paragraph 15 of the Board's Proceedings. The average cost per ton per mile varies from 10 annas 7 pies in Nellore to 3 annas 3 pies in North Arcot. The average in South Coimbatore is given in cubic feet and cannot, therefore, be compared with the rates obtaining on the other tramways.

19. *Yield and working.*—The following statement gives the particulars of the yield of the forests during the last three years :—

		1888-89.	1889-90.	1890-91
Northern Circle.	Timber and fuel	C. FT. 8,935,990	C. FT. 6,996,169	C. FT. 7,567,152
	Bamboos and minor produce	RS. 1,53,565	RS. 2,63,775	RS. 3,24,004
Southern Circle.	Timber and fuel	C. FT. 9,732,988	C. FT. 9,760,821	C. FT. 8,403,560
	Bamboos and minor produce	RS. 3,77,073	RS. 3,97,425	RS. 4,93,081

There was a noticeable increase in the outturn under nearly all heads in the Northern Circle, and especially in the number of bamboos removed by private agency. This is mainly due to the inclusion in the returns of bamboos cut in the Rampa forests. The increase of revenue under this head is naturally ascribed to the same cause, but the Board is wrong in stating that the Rampa forests were brought under the control of the department during the year. Trial stations have been established *outside* Rampa, where produce is stopped and seigniorage is levied, but the Forest Act has not as yet been applied to this locality and the department has no authority therein. The decrease in the outturn of timber and fuel in the Southern Circle is fully explained in the Conservator's report. The Government agrees with the Board in considering that the low price obtained for the lower class timbers and for fuel is a matter requiring further investigation on the lines suggested by the Government of India, and desires to receive a separate report on this subject. One of the main objects of the Forest Department should be to provide the public with fuel and timber at low rates, but as the Board points out, the figures quoted in the reports merely represent the seigniorage rates and not the actual market prices.

20. The subjoined statement compares the figures of departmental work with that done by private agency during the last three years :—

Year.	Northern Circle.		Southern Circle.	
	Government agency.	Private agency.	Government agency.	Private agency.
Timber and fuel.	C. FT.	C. FT.	C. FT.	C. FT.
1888-89	1,128,901	7,691,793	677,912	9,046,612
1889-90	972,388	6,007,091	1,049,847	8,703,651
1890-91	1,395,242	6,141,864	1,054,181	7,338,351
Bamboos and minor produce.	RS.	RS.	RS.	RS.
1888-89	17,008	1,71,337	67,126	2,69,036
1889-90	15,311	1,83,436	32,068	2,96,965
1890-91	10,470	3,12,871	55,026	4,37,603

In reviewing last year's report, the Government of India enquired whether account had been taken of the cost of permanent establishments in comparing the average profits of departmental with private working. The Board has now calculated the proportion of B. expenditure that can be assigned to each head, and shows that as regards timber, fuel and bamboos, the work done by Government agency is the more profitable in the Southern Circle, but not in the Northern. The gross charges for establishment cannot be divided among the various heads in proportion to the actual expenditure under A. (Conservancy and Works), nor can the proportion of receipts under each head be adopted, and the Board takes the aggregate of these two accounts as the basis of the calculation. This arrangement throws the major portion of the B. expenditure upon private working and cannot therefore be considered satisfactory. The Board justifies this by the assertion that the large establishments of guards,

watchers and tannadars have to be entertained mainly to meet the requirements of the private agency system and are not so necessary for work done by the department. The charges under this head amount to only 27 per cent. of the total B. expenditure and it can hardly be maintained that the major portion of the remainder is debitable to private working. It is probable that the increase of receipts from the latter source involves more careful and extensive supervision, and on this ground the revenue under each head is rightly taken into the calculation, but it does not follow that the supervision charges for private working are heavier than those for departmental operations, because the gross revenue from the former exceeds that derived from the latter No satisfactory apportionment of these establishment charges can indeed be made, and in asserting last year that departmental work was more profitable than that done by private agency, the Board did not consider this point. Assuming, however, that the B. expenditure can be allotted in equal proportions to the two systems, and calculating the charges for each head in the same proportion as those shown under A, the following results are obtained :—

Items.	Southern Circle.						
	Quantity sold (form 71).	Amount of sale-proceeds (form 71).	Charges.			Net profit.	Rate of net profit (column 7÷column 2).
			A. (form 64).	B.	Total.		
1	2	3	4	5	6	7	8
Departmental working.		Rs.	Rs.	Rs.	Rs.	Rs.	Rs. A. P.
Timber and fuel .. C. ft.	1,002,268	1,88,405	68,438	1,17,520	1,85,958	2,447	0 0 0·46
Bamboos .. .. No.	40,429	3,069	985	1,691	2,676	393	0 0 1·86
Sandalwood .. .. C. ft.	2,699	19,040	1,982	1,858	2,940	16,100	5 15 5
							Net rate of loss.
Minor produce .. Mds.	22,749	54,362	28,760	49,386	78,146	— 23,784	1 0 8
Private working.							
Timber and fuel .. C. ft.	7,314,045	3,26,331	19,285	72,854	92,139	2,34,192	0 0 7·1
Bamboos .. .. No.	6,044,381	93,010	5,535	20,910	26,445	66,565	0 0 2·1
Grazing	Not reported.	69,123	4,064	15,353	19,417	49,706	..
Minor produce	Do.	2,73,245	16,063	60,682	76,745	1,96,500	..

Items.	Northern Circle.						
	Quantity sold.	Amount of sale-proceeds.	Charges.			Net profit.	Rate of net profit (column 14÷column 9)
			A.	B	Total.		
	9	10	11	12	13	14	15
Departmental working.		Rs.	Rs.	Rs.	Rs.	Rs.	Rs. A. P.
Timber and fuel .. C. ft.	1,344,814	1,29,209	75,667	11,170	86,837	42,372	0 0 6·05
Bamboos .. .. No.	86,545	1,803	650	959	1,609	194	0 0 0·4
Sandalwood .. .. C. ft.	1,214	11,229	1,574	2,324	3,898	7,331	6 0 7·4
							Net rate of loss.
Minor produce .. Mds.	17,106	9,756	5,833	8,611	14,444	— 4,688	0 4 4
Private working.							
Timber and fuel .. C. ft.	6,110,534	2,41,988	14,106	53,004	67,110	1,74,878	0 0 5·5
Bamboos .. .. No.	11,935,284	72,924	4,253	15,981	20,234	52,690	0 0 0·8
Grazing	Not reported.	82,775	4,738	17,803	22,541	60,234	..
Minor produce	Do.	1,69,228	9,794	36,801	46,595	1,22,633	..

These figures show higher profits under private working under almost all heads. The calculation cannot, however, be considered as of much value, for the equal division of B. expenditure between the two systems of working is purely arbitrary, and the said outlay cannot, moreover, be debited in full to the head of "Working charges." The development of the forests with a view to obtaining a maximum revenue therefrom at a minimum cost to the State is one of the main duties of the department, but the conservation of forest areas for climatic purposes is an equally important duty

and necessitates the employment of large establishments. This fact must be considered in apportioning the expenditure under head B, and its allotment in full to working charges unduly reduces the net profits of these operations.

21. *Financial results.*—The financial results of the year's working are compared below with those of the previous year :—

	Northern Circle.		Southern Circle		Total.	
	1889-90	1890-91.	1889-90.	1890-91	1889-90	1890-91.
	Rs	Rs.	Rs	Rs	Rs	Rs
Receipts	6,06,610	7,45,547	9,51,017	10,49,861	15,57,627	17,95,408
Charges	4,58,330	4,91,555	7,07,028	7,61,729	11,65,358	12,53,284
Surplus ..	1,48,280	2,53,992	2,43,989	2,88,132	3,92,269	5,42,124
Increase over last year ..	1,05,712		44,143		1,49,855	

As the Board points out, the revenue realized during the year under review was the highest on record. The increase in the receipts is very satisfactory, and with the stronger establishments, which are in future to be entertained, it may confidently be anticipated that the revenue will continue to rise. The heavy financial burden that the revised staff will throw upon the State can indeed only be justified by an enhancement of revenue, and if the forests are to be worked, as the Government of India desires, upon mercantile principles, it is incumbent upon the department to show a larger surplus in proportion to the increased outlay. A portion of the present increase appears, however, to be the result of a book transfer of certain items from Land Revenue to Forests. The rise in the receipts for minor produce in Chingleput, Salem and Trichinopoly is said to be due to this cause and the Government notes that the Board promises to report separately upon this question, in so far as it relates to the Salem district. Further information has already been called for in regard to a similar proposal for transfer in Tanjore, and the Government desires to receive a full report on the question generally as affecting the whole Presidency. The sudden rise of receipts for minor produce in North Arcot from Rs. 24,639 to Rs. 52,060 is ascribed to a better system of sale introduced by the District Forest-officer.

22. In conclusion, His Excellency the Governor in Council desires to express his entire concurrence with the remarks contained in paragraph 18 of the Board's review. The reports of the year 1890–91 give evidence of steady progress on the part of the Forest Department, and the operations of the year must on the whole be considered as satisfactory. The increase of revenue proves that the forests are being worked more efficiently, but His Excellency in Council looks rather to the improvement and cheapening of the timber and fuel supply, than to the enhancement of the annual surplus, and trusts that the district schemes for meeting the requirements of the agricultural population from the Government reserves, in accordance with the policy enunciated in G.O., No. 844, dated 29th October 1890, will be drawn up and submitted for approval with the least possible delay.

(True Extract.)

(Signed) C. A. GALTON,
Secretary to Government.

To the Commissioners of Land Revenue.

Copy to the Commissioner of Revenue Settlement, Land Records and Agriculture.
,, to the Accountant-General.

No. 1187A.

Copy to the Government of India, Revenue and Agricultural Department.

(Signed) C. A. GALTON,
Secretary to Government.